United Nations Development Programme

Country: Kenya

PROJECT DOCUMENT[1]

Project Title:	Sound Chemicals Management Mainstreaming and UPOPs reduction in Kenya.
UNDAF Focus area(s):	**Strategic Result 4: Environmental Sustainability, Land Management and Human Security**. By 2030 Kenya is prosperous, underpinned by efficient management of natural resources and equitable access of Kenyans to development assets including land, water and other renewable resources, and achievement and sustainability of national cohesion and resilience that guarantees long term peace and prosperity
Expected UNDAF Outcome(s)/Indicator(s):	**Outcome 4.1:**Policy and legal framework: By 2016 Kenya has robust policies and legal frameworks linking issues of environmental sustainability, climate change and land management to human security and resilience therefore requiring an integrated & coordinated response at all phases **Outcome Indicator :**№ of integrated operational action plans developed Baseline: 0; Target single integrated action plan 2015: in place; MoV: Integrated action plan. № of reported land and natural resource use conflict and disaster incidences in disaster prone counties Baseline TBD, Target 30% reduction, MoV Mapping reports
Expected UNDAF Output(s) and Indicator(s):	**Output 4.1.1** - Policy: Public and private sector institutions have adequate capacity to develop evidence-based and coherent policy responses to the inter-linked challenges of environmental sustainability, land and natural resource management and human security **Output Indicator:** № of new enabling policies and legal frameworks developed; Baseline: 0, Target 6 one for each key area above 2015; MoV: Qualitative assessment. № of disaster prone counties that integrate land use issues, DRR, human security and peace building into County Integrated Development Plans (CIDPS); Baseline 0, Target All disaster prone counties; MoV: CIDPS

Executing Entity/Implementing Partner:MEWNR (Ministry of Environment, Water and Natural Resources); MOH (Ministry of Health); Counties of Nairobi, Kisumu, Nakuru and Mombasa and civil societies(Greenbelt Movement, Kenya Disaster Concern)

[1] For UNDP supported GEF funded projects as this includes GEF-specific requirements

Brief Description: The project intend to protect human health and the environment by managing the risks posed by production , use, import and export of chemicals and reducing / preventing the release of U-POPs and toxic compounds originating from the unsafe management of waste in two key sectors: Health Care Waste and Municipal Waste. These sectors are among the highest priorities identified in the reviewed and updated NIP. On the HCWM waste side, the project will adopt an integrated approach aimed at increasing the proper management of waste within the hospital facilities (increasing segregation, reducing waste generation) and by replacing the dangerous disposal waste modality currently adopted (open burning or burning in single chamber incinerators) by SC-compliant equipment. Training will be deliver both at HCF level and in classroom training events, and will be based on the WHO bluebook guidance tailored to the country needs. On the municipal waste side, the project intends to reinforce the 3R (Reduce, Reuse, Recycle) economy on two specific waste streams, by enhancing their upstream collection, ensuring the quality of recovered material, and securing access to national market by promoting cooperation with domestic industries. This for providing a valid alternative to the dumpsite economy, and preventing the release in the environment of U-POPs and toxic substance release upon open burning of these waste streams. The project also includes a component related to the sound management of chemicals, by implementing activities on U-POPs monitoring, upgrading of the relevant regulation on chemicals, and establishing a PRTR database

Programme Period: Atlas Award ID: Project ID: PIMS #		Total resources required Total allocated resources:	
Start date: End Date	Jan 2015 Jan 2020	• Regular • Other:	
Management Arrangements PAC Meeting Date	NIM t.b.d.	○ GEF ○ Government ○ Private/bilateral	US$ US$ US$

Agreed by (Government):

Date/Month/Year

Agreed by (Executing Entity/Implementing Partner):

Date/Month/Year

Agreed by (UNDP):

Date/Month/Year

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List of Acronyms

APR	Annual Project Report
AWP	Annual Work Plan
BAT	Best Available Technique
BEP	Best Environmental Procedure
CO	Country Office
CTF	Central Treatment Facility
EIA	Environmental Impact Assessment
EOL	End Of Life
ESM	Environmentally Sound Management
FSP	Full Size Project (GEF terminology)
GEF	Global Environment Facility
HCF	Healthcare Facilities
HCW	Healthcare Waste
HCWM	Healthcare Waste Management
ICT	Information and Communication Technologies
IMC	Inter-Ministerial Committee
IP	national Implementing Partner
IR	Inception Report
I-TEQ	Internationally agreed TEQ - 1 g TCDD equals 1 g I-TEQ
IW	Inception Workshop
NIP	National Implementation Plan (re Stockholm Convention on POPs)
NPD	National Project Director
PCDD	Polychlorinated dibenzo-pdioxins
PCDF	Polychlorinated dibenzofurans
PIF	Project Identification Form (GEF terminology)
PIR	Project Implementation Review (annual GEF requirement)
PM	Project Manager
PMU	Project Management Unit (PMU)
UPOPs	Unintentionally Produced Persistent Organic Pollutants
POPs	Persistent Organic Pollutants
RAT	Rapid Assessment
SRF	Strategic Results Framework
STAP	Scientific and Technical Advisory Panel (to GEF)

TTR	Terminal Tripartite Review
UNEP	United Nations Environmental Programme
UNIDO	United Nations Industrial Development Organization
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme Country Office
USD	United States Dollar
WHO	World Health Organization

List of Annexes

I. SITUATION ANALYSIS

Context and global significance

Kenya and the Stockholm Convention

The Republic of Kenya is part of the East African region and is located in Sub-Saharan Africa. Kenya share its boundaries with Somalia and the Indian Ocean to the east, Ethiopia to the north, Sudan to the north-west, Uganda to the west and Tanzania to the south. Kenya is divided into 47 semi-autonomous counties each headed by a Governor.

Kenya is categorized as a poor low-income economy with a Gross Domestic Product (GDP) per capita of USD 850, approximately 45% of the population living on less than USD1.25 per day and a Human Development Index (HDI) of 0.509 in 2011 (UNDP, 2011). The economy grew by more than 7% per annum through 2007. The real GDP growth rate is expected to above 5% in 2014 - 2019.

Kenya is the most industrially developed country in East Africa and manufacturing accounts for about 14 percent of GDP. Due to urbanization, the industrial and manufacturing sectors have become increasingly important to the Kenyan economy. Industrial activity is concentrated around the three largest urban centers, Nairobi, Mombasa, and Kisumu and is dominated by agro / food-processing industries such as grain milling, beer production, sugarcane crushing and foodstuff.

Since attaining independence in 1963, agriculture has remained the main economic activity driving the economy. The use of chemicals mainly in agriculture, and health sectors over time has shown an upward increase as the country pursues its goals of meeting domestic and export needs of agricultural produce and for controlling pests. After political independence, thepopulation living in urban areas started to increase as most of the educated moved to urban areas in search of officejobs. By 1999, the population of urban dwellers had increased to 34.5% and is expected to increase to 50% by the year 2015 with implications of increased loads of solid wastes including hazardous wastes.

a regional level a free-trade area was launched by the EAC in 2005 and a Common Market in July 2010. Kenya has to maintain both global and regional competitiveness. This will of necessity imply that the country will face an increased demand in use of chemicals and generation of UPOPs and hence the need to closely monitor the use of chemicals and generation of UPOPs from a policy perspective.

Kenya is a party to the Stockholm Convention on Persistent Organic Pollutants (POPs) having ratified the Convention in September 2004. The country subsequently developed its National Implementation Plan (NIP) in 2007. The NIP under review covered three years from 2007 to 2009. Like other signatories to the Convention, Kenya engaged in the process of updating the NIP in accordance with the provisions of Article 7 of the Convention and in view of the amendments made to the convention since ratification. Through this process, Kenya is expected to develop or amend and implement, in a systematic and participatory manner, priority policy and regulatory reforms as well as capacity building needs and required investment programs for the new POPs since 2004. The process will also enable Kenya to establish inventories of products/articles containing new POPs, industrial processes using them and to provide useful information on the concentration levels and distribution of new POPs across the country.

In addition to the Stockholm Convention, Kenya has ratified a number of other chemicals related Multi-lateral Environmental Agreements (MEAs), listed in Table 1 below..

Table 1. International conventions and multilateral agreements signed, ratified and acceded to by Kenya

Multilateral Environmental Agreement	Signing Status	Ratification/ Accession	Responsible Institution
Stockholm Convention on POPs	Signed	Ratified Update NIP	MEWNR
Basel Convention on the Trans-boundary Movement of Hazardous Waste and their Disposal	Signed	Ratified	MEWNR
Ban Amendment to the Basel Convention	Signed	Ratified	MEWNR
Rotterdam Convention on Prior Informed Consent for Certain Chemicals and Pesticides in International Trade	Signed	Ratified	MEWNR
Minamata Convention on Mercury	Signed	Signed	MEWNR
Global Harmonized System of Classification and Labelling of Chemicals	Not addressed	Not addressed	Not decided
Vienna Convention	Signed	Ratified	MEWNR
Montreal Protocol	Signed	Ratified	MEWNR
• London Amendment to the Montreal Protocol	Signed	Ratified	MEWNR
• Copenhagen Amendment to the Montreal Protocol	Signed	Ratified	MEWNR
• Montreal Amendment to the Montreal Protocol	Signed	Ratified	MEWNR
• Beijing Amendment to the Montreal Protocol	Signed	Ratified	MEWNR
Development of a National Profile on chemicals management, (SAICM implementation)	Done in 2010	N/A	NCC
UN Framework Convention on Climate Change	Signed	Ratified	NCC
– Kyoto Protocol	Signed	Ratified	MEWNR
UN Convention to Combat Desertification	Signed	Ratified	MEWNR
Convention on Biological Diversity	Signed	Ratified	MEWNR
– Cartagena Protocol on Bio-safety	Signed	Ratified	National Council on Science and technology
Convention on Chemical Weapon	Signed	Ratified	Government Chemist Department

c) GEF projects launched in the framework of the SC convention

The proposed project is the first post-NIP project being launched in Kenya with the support of GEF and UNDP to address the priorities identified in the NIP. Kenya however participated in a number of regional projects, out of which the two UNEP projects on global monitoring plan are the most relevant with the activities of the proposed project. The coordination with that project will therefore be essential and ensured in the course of project implementation.

Table 2. GEF projects on POPs launched or implemented in Kenya

GEF N°	Project title	Agency	Project type	GEF Grant	Co-financing	Status
1	Enabling Activities for the Stockholm Convention on (POPs)	UNEP	Enabling Activity	425,900	41,000	Completed
2	Kenya NIP Update: Reviewing and Updating the National Implementation Plan under the Stockholm Convention	World Bank	Enabling Activity	172,66	34,000	Complete

Table3. GEF regional projects on POPs with Kenya as participating country

N°	Project title	Agency	Project type	GEF Grant	Co-financing	Status
1	DSSA Malaria Decision Analysis Support Tool (MDAST): Evaluating Health Social and Environmental Impacts and Policy Tradeoffs	UNEP	MSP	999,000	1,013,888	Under implementation
2	Supporting the Implementation of the Global Monitoring Plan of POPs in Eastern and Southern African Countries	UNEP	MSP	440,000	460,000	Project completed
3	Demonstration of Effectiveness of Diversified, Environmentally Sound and Sustainable Interventions, and Strengthening National Capacity for Innovative Implementation of Integrated Vector Management (IVM) for Disease Prevention and Control in the WHO AFRO Region	UNEP	FP	15,491,700	118,720,000	PPG
4	Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention in the Africa Region	UNEP	FP	4,208,000	8,462,000	CEO Endorsed

Baseline analysis

General Environmental legislation.

The Constitution of Kenya 2010has devolved the overall governance matters to the counties. It has also created new administrative and legislative rules. Some of these new interventions have been juxtaposed on the old multiplicity of implementing institutions and sectors. The National Environment Management Authority (NEMA), which has the national mandate of coordination and supervision of all matters of environmental management including POPs, has also devolved some of its national mandate to the counties.

Institutions in charge of chemical management and environmental protection

Ministry of Environment, Water and Natural Resources. The Ministry is the government agency charged with principal responsibility of protecting Kenya's environmental resources. The MEWNR also has overall responsibility for coordinating the work of all Lead Agencies whose work directly impacts on environment through the National Environment Management Authority (NEMA). Specific responsibilities for the ministry are: to initiate environmental policies; coordinate the activities of sectoral agencies; and advise government on environmental issues;

National Environmental Management Authority. The National Environmental Management Authority (NEMA) was established under the Environmental Management and Coordination Act (EMCA) No. 8 of 1999, as the principal instrument of the government in the implementation of all policies relating to the environment. NEMA has the mandate to safeguard, restore and enhance the quality of the environment through coordination and supervision of stakeholders for sustainable development; exercise general supervision and coordination over all matters relating to the environment and implementation of environmental law; and supervise and coordinate all environmental matters and implement all policies relating to the environment for sustainable development.

NEMA has to date considerably developed its human and technical resource capacity to coordinate the environmental management activities of agencies and institutions whose activities impact on the environment; oversee the management and smooth functioning of the semi-autonomous government agencies - MEWNR, KFS and KEFRI and support the country's implementation of MEAs conventions.

Ministry of Health: With specific reference to the Health Care Waste Management (HCWM) related activities (Components2 and 3) the mission of MOH are: to establish systems and infrastructure on waste management; to identify provisions of HCW management equipment, materials and supplies to health facilities; to develop and disseminate standards and guidelines on HCW management; to promote continuing professional development for health workers on HCW management; to train HCW handlers on proper waste management; to promote the segregation, storage, collection, pre-treatment, transportation and proper disposal of waste.

County and District Level Institutions. The national institutions, established under the new constitution are required to decentralise their functions by establishing County and District Officers. Existing institutions already have a presence in the Counties and have or are in the process of establishing offices in the new Districts. The Constitution of Kenya 2010 creates an ambitious County Government structure based on principles of democracy, revenue reliability, gender equity, accountability and citizen participation. The roles allocated to the county governments include the implementation of national policies on environment and natural resources (including soil and water conservation and forestry) and local tourism, among others.

District Environmental Committees. The EMCA mandated the creation of several institutions at national, county and district levels to facilitate the fulfilment of its functions. The District Environment Committee (DEC) is responsible for the proper management of the environment in the Districts. They develop the environment action plans of their districts and pass them on to the National Environmental Action Plan Committee.

Environmental Regulation

Environmental Management and Coordination Act, 1999 (EMCA 1999). This Act aims at improving the legal and administrative co-ordination of the various sectoral initiatives in the field of environment. It provides a framework for ensuring that environmental considerations are successfully integrated to the country's overall economic and social development. NEMA has promulgated the following regulations under EMCA 1999 to ensure protection of human health

and environment in line with Basel Convention, and with increasing compliance with the Stockholm Convention:

- Environmental (Impact Assessment and Audit) Regulations, 2003.
- Waste Management Regulations, 2006 for sound waste management (Basel & POPs Conventions).Follows Basel Convention.
- Water Quality Regulations, 2006 to protect water resources from pollution. Follows WHO guidelines.
- Controlled Substances Regulations, 2007 for Control of Ozone Depleting Substances (ODS). (Vienna Convention & Montreal Protocol).
- Designated Laboratories (23) for analytical work promulgated but do not cover any other conventions.
- Air Quality Regulations awaiting promulgation. They have tried to domesticate the Stockholm Convention.
- Draft Chemicals Mgt. Regulations finalized awaiting the due process of promulgation (Rotterdam, POPs &Minamata Mercury Conventions) taking into account Rotterdam, Stockholm, Montreal, and Minamata Conventions.

The following regulations are currently under development or approval:

- E-waste management regulations developed awaiting promulgation.
- Asbestos handling and disposal guidelines developed.
- Regulations on used oil, waste tires and plastic wastes are being developed
- End of life tires regulation awaitingpromulgation.

Specific regulation on Health Care Waste

The Public Health Act Cap. 242, the Environmental Management and Coordination Act,(EMCA) 1999 and the Occupational Safety and Health Act, 2007 of the Laws of Kenya provide the legal basis for the formulation and implementation of the Health Care Waste Management in Kenya. These guidelines also cover the national policy on injection safety and medical waste management, 2007.

Kenya has developed the following documents related to safety in the health sector.

- Occupational Health and safety guidelines for health sector 2014.
- Biosafety and biosecurity guidelines 2014
- Healthcare waste management strategic plan 2015 – 2020 yet to be finalized
- Infection Prevention and Control strategic plan 2014 – 2019
- Health sector strategic Plan III 2013 – 2017

Policies are guiding principles that direct organizational goals and objectives on various HCW issues include:

- National Policy on injection safety and Medical waste management.
- National Health Care Waste Management plan (2008 – 2012)
- National Health Care Waste Management Guidelines 2011
- Infection Prevention and Control Policy.

- Infection Prevention and Control guidelines

Specific regulation on Chemical Management

Legal provisions on Sound Management of Chemicals and waste in Kenya are established under a number of regulations among which the most relevant are the Environmental Management and Coordination Act, the Public Health Act , the Waste Management Regulations, 2006 (Legal Notice No.121), the Pest Control Products Act, cap. 346, the Fertilizer and Animal Foodstuff Act, cap 345, the Controlled Substances Regulations (dealing with ODSs), 2007 (Legal Notice No.73 of 2007), the Drug and Chemical substances Act, as well other regulations of more wider application like the Energy Act and Petroleum Acts. Most of these regulations need to be amended to ensure they address the MEAs related to chemicals and waste, with special reference to the Stockholm Convention, Rotterdam Convention, the Minamata Convention, the Basel Convention and the other conventions signed or ratified by the country. The environmental regulatory system currently in place does not provide a an integrated and consistent framework for the management of chemicals and waste as well as chemical pollution in the Country.

Based on the information provided in the Kenya national profile, the enforcement of laws for the management of chemicals is very critical, as there is the need to improve the following:

- Prosecution of offenders failing to meet the provisions of EMCA(1999), environmental standards, regulations and guidelines;
- Coordination of environmental matters amongst all lead agencies/stakeholders;
- Environmental planning, research, inventorying and monitoring;
- Implementation of actions in the Multilateral Environment Agreements on chemicals and wastes;
- Integration of environmental concerns into national development policies, plans and programmes;
- Establishment of an award scheme for best environment practices among individuals, Organizations at district, provincial and national levels.

Table 4below shows the summary of various legal instruments and subsidiary regulations for managing chemicals in Kenya.

Table 4: RelevantChemicalLegislationin Kenya (source: Kenya National Profile)

Legal regulatory/Instruments	**Responsibleparty**
Sessional Paper No. 6 of 1996 on Environment andDevelopment	MEWNR
National Environmental Sanitation and Hygiene Policy,2007	MOH
National Policy on Injection Safety and Medical WasteManagement,	MOH
Occupational health and safety Policy,2007	Ministry of Labour, Dohss
Bio safetyPolicy	Ministry of Agriculture
Water Act,2002	Ministry of Water
Environmental Management and Coordination Act ,1999	MEWNR
The Pest Control and Products Act, Cap346	Ministry of Agriculture, PCPB
Energy Act,2006	Ministry of Energy
Radiation Protection Act	MEWNR
Explosives Act	MEWNR
Revenue Act	KRA

Traffic Act Cap,403	Ministry of Transport
Finance Act	Ministry of Finance
Standards Act	Ministry of Industrialization
Trade Act	Ministry of Trade
Waste management regulation,2006	NEMA
Pesticides disposal regulation	PCPB
Non-Regulatory mechanisms for managingchemicals	**Institutions**
Hazardous gaseous emission awards	National Cleaner Production
Energy efficiency awards	Kenya Association of Manufacturers
Code of practice on distribution and transport and disposal of pesticides	PCPB
Voluntary code of conduct for businesses around lake Victoria	KNCPC

Specific regulation on Municipal Waste

The objective of the Kenyan regulations on municipal waste is to provide the most suitable legal arrangement for enabling institution in the effective and efficient control of the solid waste management activities in the country.

The Waste Management Regulations, 2006 (Legal Notice No.121) establishes a number of rules for the management of municipal waste, including provisions for licensing of collection, transportation, and operating landfills.

Being a relatively new area, there is no specific legislation in Kenya aimed at reducing the release of unintentionally produced POP's.

However, there is a number of regulations thatcan be modified to integrate the requirements of the Stockholm Convention on U-POPs, namely:

- Waste incineration: Local Government Act, Public Health Act, EMCA, Public nuisance Act;
- Medical Waste Incineration subsidiary legislation under Public health act that requires medical facilities to separate and segregate medical waste;
- Hazardous Wastes: the draft regulations under EMA Pest Control Products Act have a new regulation on medical waste that prescribes incineration.

The situation of Sound Management of Chemicals in Kenya

Kenya is not a major producer of synthetic chemicals. However in Kenya there is extensive extraction of minerals that contributes to chemical manufacturing including soda ash, fluorspar, diatomite and titanium . Prospects for gold, iron ore, petroleum, rare earth metals etc are high. The other major source of chemicals is in their recovery from waste products, including WEEE. Therefore, mainstreaming chemicals management into development process is important to ensure that developers and policy makers understandthe linkages between chemicals and waste management in relation to development activities and poverty reduction programmes.

About 25% of the overall import of chemicals in 2010 was from chemicals fertilizers and plastics in primary and non-primary forms. Toxic chemicals currently regulated under the Stockholm convention are not produced in Kenya, and their import is not specifically tracked by the custom. The Kenya Bureau of Statistic register the import of these substance, if any, as "all other commodities".

Chemical manufacturing and processing enterprises represent an estimated 6% to 8% of the GDP[2]. Other sectorsusing extensively chemical products are the transport and energy sectors which use chemicals and petroleum products and generate toxic waste through automobile service stations, garages etc.. Energy sector includes chemicals used in power generation such as fossil fuels, batteries, oil, refrigeration/metal treatment etc.

In Table 5, figures concerning imports and exports of different category of chemicals are provided.

Table 5: Imports and Exports of Chemicals by type

Articles	Units	2008	2009	2010
Pigments, paints, varnishes etc	Tonnes	15534	16135	22342
Soaps and cleansing preparations, perfumes	Tonnes	10,014	12304	15974
Waxes, polishes paste etc	Tonnes	489	546	448
Nitrogenous fertilizers	Tonnes	129057	110915	122226
Phosphate fertilizers	Tonnes	14718	16474	24069
Other agricultural formulations	Tonnes	331932	321515	272737
Synthetic plastic materials	Tonnes	222761	266935	308070
Insecticides, fungicides, disinfectants etc.	Tonnes	9972	10,056	10803

Source Kenya National Bureau of Statistics, 2011

Kenya needs to assess the impacts of chemicals and hazardous waste as well as introducing alternatives to hazardous chemicals in all field, as well as Best Available Technologies and Best Environmental Practices in all productive sectors. Though some regulations related to the use of chemicals in specific sectors are in place (for instance healthcare, manufacturing, agriculture) still there is the need to ensure a more consistent approach based on international standards, integrating risk assessment and lifecycle approaches.

On the side of chemical classification, although Kenya agreed to implement GHS by 2008, this is yet to come. There is an urgent need to assess conformity with the labelling requirements as per the GHS for dangerous goods, pesticides, consumer products, occupational health and safety and industrial chemicals.

The Kenya National Chemicals Profile(KNCP)2010 identified a number of risks for the human health and the environment in Kenya, and identified priorities for sound chemicals management. The highest were air pollution, improper management of hazardous waste, storage of obsolete pesticides.

Chemical risks are many and diverse in Kenya. For example,there have been several cases of acute poisoning in industries and farms[3], as well as very large intoxication accidents related to

[2] KAM 2012

[3]Nyamu D.G. et al., Trends of Acute Poisoning Cases Occurring at the Kenyatta National Hospital, Nairobi, Kenya, East and Central African Journal of Pharmaceutical Sciences, Vol. 15 (2012) 29-34

metahnol poisoning from the consumption of adultareted alcoholicdrinks (more than 80 deaths in the last case dated May 2014[4]). There are no information related to the long-term effect associated to the exposure to carcinogenic chemicals. So far the facts are not coordinated because of lack of institutional coordination among the many stakeholders. Thus the risk associated to chemical is likely to continue being at the same time outstanding and largely unknown in the absence of decisive intervention. Some actions have been however undertaken. Since the adoption of SAICM in 2006, Kenya has taken steps to link its SAICM concrete activities within a National devlopement framework in the sector of agriculture and environmentally sound management of chemicals. A number of public institutions in the chemicals committee[5]and the private sector[6] have been established and participated in a national chemicals safety co-coordinating mechanism, while maintaining their independence to execute respective institutional individual interests and executed projects with within their mandate and competence. However all lack the necessary capacity. There is the need to ensure the exchange of information on chemicals among relevangt institutions like the Pest Cotrol Products Board (PCPB), National Environment Management authority (NEMA), Water Resources Management Authority(WARMA), Kenya Association of Manufactures(KAM) and the MEWNr etc.

SAICM recognised the need for interministeral coordination mechanism and developed a charter for inter-ministerial coordination which could be used to help in the mainstreaming of chemicals management. The SAICM Quick Start Programme funded projects aimed at improving the chemical management. The SAICM implementation Plan and a Kenya Draft Chemicals Policy were developed, and a proposal to develop Kenya's Chemicals Database has been elaborated.

The situation of Health-Care Waste in Kenya

In Kenya, the hospital system with a total of 306 hospitals and 191 nursing Homes (out of which, 158 public hospitals and sub district hospitals, 74 Faith based organizations (FBO) and non Governmental Organizations(NGO), and 74 Private hospitals)[7] is the backbone of the health care system. The health sector has facilities ranging from the national referral and provincial, district and sub district hospitals that provide integrated curative, rehabilitative care and supportive activities for peripheral facilities. The facilities offering health care services in Kenya are inclusive of government managed facilities through the MOH, Ministry of Devolution, Local Government, mission or Faith. The project focuses on facilities representative of four counties, Nairobi, Mombasa, Nakuru and Kisumu, which are listed below:

1. Coast General Hospital
2. Port ReitzHospital
3. Likonio Hospital
4. Kisauni Dispensary
5. Mbagathi Hospital
6. Mathare Hospital
7. Lucy Kibaki Hospital
8. NaivashaSubcounty Hospital
9. Nakuru Provincial Hospital
10. Molo Hospital

[4]http://news.bbc.co.uk/2/hi/africa/1025120.stm and http://allafrica.com/stories/201405080784.html
[5] MEWNR.NEMA, Government Chemist, MOH, KEBS, UON<AG
[6] KAM, AAK
[7] MOH, 2007

11. Kisumu District Hospital
12. Jaramogi Oginga Odinga Hospital
13. Ahero Hospital

The government of Kenya drafted in 2008 - 2012, in cooperation with the WHO, the Health Care Waste Management plan, outlining the HCWM status in the counties, defining priorities and objectives, stressing the fact that the management of HCW is an integral part of hospital hygiene and infection control. In the course of the plan preparation, the waste produced in 23 hospitals in Kenya was measured. Table 6below reports the production factor for different categories of healthcare waste, expressed as Kg of waste produced per patient per day.

Table 6: Production rate of different categories of healthcare waste

Material	Overall Average waste per patient per day (kg/day)
Sharps	0.031
Infectious waste	0.175
Non Infectious waste	0.135
Food waste	0.184
Total waste produced per person per day	0.525

The conclusion of the survey carried out for the preparation of the Kenya HCWM plan was that:

- *“With regard to the amount of waste generated per patient, the selected results presented just reinforces the disparity observed from the measurements from the WHO expected standard practice on HCWM.”*
- *"Most of the hospitals visited were treating their waste onsite. The most common method of waste treatment was incineration at 62% using functional incinerators. Most of the wastes taken from hospitals for treatment off-site were glass waste and domestic waste while open burning, open dumping was still being practiced along with incineration. Of those taking their waste off-site, it was found out that most facilities never kept records of the waste they contract for off-site disposal."*
- *"For the incinerators observed in hospitals, majority of them were in functional status while a quarter were dysfunctional; either undergoing repair or in a non-working status."*
- *"The assessment revealed that good segregation practice was at only 27%, with most hospital departments mixing their waste. The wanting segregation practices coupled with lack of color-coded bags, poor labeling practices and inadequately provided bins for waste containment encouraged the mixing of waste. "*
- *"Poor transport facilities (mainly wheelbarrows) used also encouraged the spillage (in 63% of hospitals visited) of waste and only helped to make the situation deplorable and an obvious potential for injury and infection."*

U-POPs generated by Health-Care Waste Incineration or burning in Kenya

Based on the updated estimation provided in the Kenya reviewed and updated NIP, the disposal of medical waste generates yearly around 490 gTEq of U-POPs. The NIP also reports that HCW disposal equipment normally operate in a batch-type mode, and that only in a couple of cases, incinerators work more than eight hours per day for five days per week.

Under PPG activities, the UNDP staff visited 9out of the 12 candidate hospitals as project HCF to verify their health care waste management and to update the knowledge on the status of the available disposal facilities Table 7.

The site visits proved the urgent need to improve the management of healthcare waste in the country. All the hospital facilities visited routinely dump a significant amount of their waste in the open, in most of the cases performing also open burning. The best incinerator found during the visit (delivered in July 2014), although equipped with a secondary combustion chamber and an afterburner, is without any APCM and was operated at a very low temperature..

None of the incinerators checked during the site visit met the requirement of the SC. Except for the double chamber incinerators, all the single chamber incinerators are comparable with open burning of waste in term of environmental release of U-POPs.

Even the use of small scale double chamber incinerators like the ones installed at the Coast Hospital can be temporarily tolerated only for processing healthcare waste which cannot recycled or processed by autoclaving, provided that the waste to be processed do not contain any plastic materials containing chlorine, or toxic metals. Therefore, the use of this kind of batch incinerators, either at hospital facilities or in centralized treatment facilities should be always preceded by a very effective segregation of waste. The establishment and enforcement of rules specifying clearly what are the type of wastes which can be provisionally treated by this equipment, pending the establishment of a more environmentally sound disposal facilities, is highly recommended.

There is the need to rationalize the HCWM management by establishing a sound segregation of waste, setting small systems for the disinfection of waste in small facilities, and establishing a medium size incinerator equipped with SC APCS

Table 7:Estimated PCDD/F emission for the candidate project HCF visited during PPG activities.

Hospital visited	Number of beds	Disposal modality / comments	Emission factor	Tons of waste generated daily	PCDD/F released in the air (gTEq / year)
Mbagathy hospital	400	The stack of the single-chamber incinerator is clogged.. Fumes exit from the chamber inlet. The situation is not better than open burning and the worker working in this place is facing a severe risk for his health	40000	0.21	3.07
Naivasha hospital	240	A minimal part of the waste are burnt in a basic incinerator, whilst most of them are dumped in a pit and burnt.	40000	0.126	1.84

Hospital visited	Number of beds	Disposal modality / comments	Emission factor	Tons of waste generated daily	PCDD/F released in the air (gTEq / year)
Nakuru general hospital	400	Most of the waste are burnt in the open air	40000	0.21	3.07
Kisumu district hospital	200	Small double chamber incinerator without ACPS	3000	0.105	0.11
Kisumu teaching hospital	Not communicated	Recently installed double chamber incinerator without ACPS	3000	0.2	0.22
Ahero sub-district hospital	60	Open burning	40000	0.0315	0.46
Mombasa coast hospital	700	Dumped in the open - possibly open burning	40000	0.3675	5.3
Port Reitz hospital	178	Dumped in the open - possibly open burning	40000	0.09345	1.36
				Total	15.49

The situation of Municipal Waste in the main Kenya cities.

Rapid urbanisation, fuelled by both natural growth and rural-urban migration, has strained the capacity of Kenyan cities to provide critical services to urban residents. It is estimated that 34.8% (i.e., 10 million) of the total population of Kenya resides in the urban centres, with the largest five cities (Nairobi, Mombasa, Kisumu, Nakuru, and Eldoret) accounting for a third of the urban population. The most recent UN estimates indicates that Kenya's urban population will expand to 38 million by the year 2030, accounting for 62.7 percent of the national population. [8]According to these projections, the annual urban population growth rate could reach 5.2 percent from 2000 to 2010, 4.2 percent from 2010 to 2020 and 3.2 percent from 2020 to 2030. The scale of future urbanisation will pose further socio-economic, environmental and institutional challenges for Kenyan cities. The Government's launch of its *Vision 2030* highlighted rapid urbanisation as one of four key challenges for the country alongside income inequality, unemployment and low savings.

The management of domestic waste in Kenya is not adequate. Currently about 40% of the population receives inadequate or no domestic waste service There is no waste segregation at source within the towns, whilst the recovery of recyclable items like plastics, papers, glass and metals is done by informal groups who mostly recover waste directly at the dumpsite[9].The composition of the domestic waste stream directed to landfill varies considerably across different locations based on a variety of factors, including income and opportunities for recycling. Based on statistics from the JICA master plan (2007), food and organic waste represents more than the 60% of waste produced, where plastic represents around 12% of the waste. However these statistics are rather old and need to be updated.

[8] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2004 Revision and World Urbanization Prospects, 04 December 2006; 1:44:13 PM.
[9] NEMA. The National Solid Waste Management Strategy. August, 2014

Nairobi city, with about three million inhabitants, generates around 2,400 tons per day.of **solid waste** The amount of solid waste generated is increasing mainly due to large scale migration into four counties. A more recent study (ITDG, 2004) puts the daily solid waste generation at a relatively higher value of 2,400 tons (i.e., estimated per capita solid waste generation of about 253 kg per person per year).Kenya has problems in solid waste management that are very representative of other countries in Sub-Saharan Africa, but heightened due to the country's high growth.

In the Nairobi county, based on UNEP data, only 25% of the waste generated in low-income area is collected. Open dumping is the only method of waste disposal practiced by the municipal council. Usually, landfills are only pieces of land where dumping of waste is allowed: the dumpsites of Kachoki in Kisumu, Gioto in Nakuru, Kibarani and Mwakirunge in Mombasa, or Dandora in Nairobi are a clear example of the above. Dandora has been classified as one of the most polluted sites in the world, and being operating without any environmental protection for more than 30 years, is currently the source of a massive environmental pollution, illness, social and crime issues.

Nakuru is perhaps one of few major towns in Kenya with an inherent reputation as a clean town .It is located 160 km Northwest of Nairobi and is the fourth largest urban centre in Kenya after Nairobi, an altitude of 1859m above the sea level and within the region of the Great Rift Valley. The district has a population of approximately 1,800,000. The high growth rate has been attributed to its location within a high agriculture potential and Nakuru town as the County Headquarters and administration centre.

The major economic sectors of the Nakuru urban economy are: commerce, industry, tourism, agriculture and tertiary services. The commercial sector in Nakuru contributes about 19% of the economy of the town. Within the Central Business District (CBD), retail activity occupies 26%; wholesale has 10%, the informal sector enterprises 18% of all the commercial activity space. The most dominant forms of business in the Nakuru economy include: retail in hardware, general wholesale, outlets for agro-industrial machinery, motor vehicle trade, spare parts and servicing the agro-chemical retail and wholesale outlets.

Kisumu is the business centre for the Nyanza Region and the main national and international administrative centre. The key economic activities being sugar cane growing, fishing and small scale agriculture.It is also a regional hub supporting intensive transboundary trade between Kenya, Uganda, Tanzania and the Central African Republics of Rwanda, Sudan, Burundi, Easter Democratic Republic of Congo.

The high economic activities and population resulted in the increased waste generation that has exerted pressure to Nakuru and the Kisumu Counties and the respective regional actions. In the course of project preparation, overall fruitful consultations were made with the Nakuru and Kisumu County Environment Department officials. Each county has issue of managing chemicals and need to protect its products from the risks posed by chemicals. For Nakuru it is the horticulture and floral industry while for Kisumu it is the fish products. In addition, each has a systematic partnership with CBOs who are mandated to collect waste from zoned sections of the county in addition to collect waste levies from residents on behalf of local authorities. In Nakuru, there are 8 dumps, while in Kisumu there are three large and five small dumps. In Nakuru the biggest is Gioto, which is currently in deplorable state due to absolute negligence and POPs emission was evident from open burning of solid waste while in Kisumu it is in Nyalenda. The County Governments are doing what is possible to initiate environmentally sound disposal of the waste to reduce negative impacts and potential including health hazards as well as enforce laws that deter littering of solid waste. However, participation of public in

supporting waste management initiatives is generally low and much sensitization on 3Rs need to be undertaken.

Solid wastes include plastics, scrap metals and other goods. In Kenya, the per capita generation of waste ranges between 0.29 and 0.66 kg/day within the urban areas. Among the wastes generated in the urban centres, 21% emanates from industrial areas and 61% from residential areas. Generally, about only 20 % of the total wastes generated in the urban centres is collected and disposed of at the designated disposal sites. The rest of the generated wastes compose of chemicals including heavy metals, salts detergents and medical waste, is either dumped or burnt in the open generating dioxins and furans.

In city like Mombasa, only 68% ie around 1000 tons per day of the generated waste is collected, withremaining fraction being either dumped on the road, in illegal landfills, or burnt in the open air.

In general, there are a number of issues related to the management of municipal waste, among which the most relevant are:

- The municipal councils do not have sufficient resources for waste collection and management: in most cases, trucks for waste collection are insufficient in number and in bad conditions;
- Roadsto the dumps are very often in bad shape, making the transportation of waste very difficult or even impossible during the rainy seasons;
- Private services for the collection of waste are available, however these services cannot be accessed by poor people andoperate in low-income areas randomly;
- There is no substantial control of the landfill sites, where fires occur from time to time;
- There is no segregation of waste before being dumped, and very often healthcare waste or any other kind of hazardous waste are dumped mixed together with municipal waste;
- Waste “scavengers”, for which the “dumpsite economy” is the only source of income, are heavily exposed to all kinds of chemical pollutants and biological hazards (UNEP, Implication of the Dandora Municipal Dumping Site in Nairobi, Kenya); and
- Being their only source of income, people living inthe dumpsites relying on the “dumpsite economy” will oppose enforcement of strict regulation of dumpsites, or the closure of unsafe dumpsites.
- Community Based Organisations (CBOs) represent an important realty in the management of municipal waste in Kenya. There are a number of CBOs, including charitable organizations,, welfare societies, village committees, self-help groups, and residential (or neighborhood) associations (RAs).Majority of the CBOs are engaged in waste composting although NGOs and international organizations support CBOs through training, marketing and provision of tools and equipment, among other ways. About 55.6 per cent of the CBOs report having been sponsored or facilitated by local and international NGOs and such United Nations agencies like the UNFPA and UNCHS (HABITAT) (Ikiara et al., 2004). Important NGOs includeDisater Concersn, Catholic Diopocese of Kisumu,, and the Green Belt Movement.Integrated Waste Management of Mombasa and Safi organisation in Mombasa.

In summary, the management of municipal waste is at the very crosslink of relieving poverty, environmental policy, prevention of U-POPs and POPs spreading in the environment.

U-POPs generated by open burning of Municipal Waste in Kenya

Based on the NIP update, open burning of waste and landfills generates 247 g TEQ which is about 7% of the national releases. Though it is not the highest source, it should be noted that this form of release is widespread and thus has the potential to affect far more people. The lack of controls in open air burning and indeed its encouragement for purposes of reducing the volume of waste is a key concern.

Baseline project

A.3.1. Sound Chemical management

SAICM and SAICM Implementation Plan (SIP). The Kenya national chemicals profile was completed in 2010. Since then the constitution has been revised putting some chemical management issues under national government and others under counties. As such the chemical profile and other documents will need to be updated. In the meantime, there have been the following developments:

- A Kenya SAICM Implementation Plan streamlining chemicals management;
- Draft chemicals Policy streamlining chemicals management;
- Draft proposal for a chemicals data base;
- Draft Chemicals Management regulations streamlining chemicals management;

The *SAICM Implementation Plan for Kenya (2011-2014)*[10], has the goal of reducing the identified risks to human health and the environment due to exposure to chemicals. Risks occur in agriculture, manufacturing and common life. The plan lists specific priority risks and hazardous activities. It provides a framework with themes and actions that Kenya needs to implement to address risks posed by chemicals.

The plan proposes to strengthen national mechanisms such as policies, legislations, commissions, education programmes, information network, etc. to facilitate the implementation of specific chemicals management activities at the national, county and enterprise levels.

The SAICM Implementation Plan (SIP) is based in the National Chemicals Profile and the technical contributions of the SAICM stakeholders during the process of capacity assessment and stakeholder consultation.

The plan recognizes that all interventions of chemicals production, import, export, use, transport and disposal are all a priority in Kenya. Kenya needs to make greater efforts to integrate fully the objectives of sound management of chemicals into national budgets and development cooperation.

The link between chemical safety and sustainable development needs to be fully reflected in the normal national budgeting processes under medium Term Expenditure Framework, multilateral project funding decisions of bilateral development cooperation agencies

The SIP established critical links to priorities for Kenya for management of chemicals. It will offer cross-sectoral overarching objectives such as “pro-poor growth”, economic stimulus programmes [11]or “fiscal sustainability” that involves a series of sectoral targets and measures with direct link to environment and health issues. This is an aspect that can benefit from the technical assistance of UNDP. The plan envisages the following:

[10]http://www.environment.go.ke/saicm/
[11]

- Technical by-laws, state and municipal guidance covering waste management.
- At least 50% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis
- 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation.

The plan is expected to deliver the following output:

- An inter-ministerial charter, for which a detailed terms of reference has been drafted, for interministerial coordination in matters of chemicals and hazardous waste will be established;
- Increased competitiveness in the global market since products from Kenya (food, industrial manufactured goods) will meet international standards with environmentally friendly alternatives for intentionally produced and used chemicals; thus reducing UPOPs pollution and contamination to water, soil, and ecosystems.
- Improved energy efficiency, reduced emission of U-POPs, SO2, NOx, CO2 and other pollutants such as mercury, in the case of unintentional production.
- Reviewed existing legislation to make it more comprehensive in light of new international instruments that govern chemical's and hazardous waste and risk management
- Building capacity for institutions and agencies to enforce those regulations and implement guidelines that touch on extracted minerals, industrial chemicals, petroleum products, consumer goods and electrical and electronic waste
- Spin-off effects concerning strong institutional management support, strengthening of environmental legal frameworks and environmental monitoring capacities of Kenya resulting from these actions.

Guidelines developed under EMCA: The following draft guidelines and regulations have been developed under the Environmental management and Coordination Act

- E-waste guidelines(addressing the new industrial POPs;
- Draft e-waste regulations addressing the new industrial POPs;
- Draft air quality regulations has new requirements for incineration and open burning, requires compliance with standards onm dioxin and furan emissions;

The updated and reviewed Kenya NIP. The Kenya National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants has been updated and submitted to the Stockholm Convention Secretariat. Among others, it establishes the following priorities related to the sound management of chemicals:

- Promoting Technology Transfer, Cleaner Production, industry andcivil society participation in POPsmanagement
- Enhancing Laboratory services, research for monitoring of POPspollutants and assessment of alternatives to toxicPOPs
- Promote safer POPs alternatives as suggested by theNational ImplementationPlan

Despite such important effort being carried out, there are still difficulties in the completion of the relate activities with special reference to the establishment and enforcement of an integrated chemical and waste regulation which takes into account: guidance on waste classification based

on their chemical composition; standards on substances recovered from waste; sound management of chemical waste; etc. It should also be noted that currently there are no plans for the implementation of the GHS for classification, labeling and packaging of hazardous chemicals.

Synergy and cofinancing will be provided by the following financing sources ::

- GoK Activities related to the SAICM implementation plan:
- GoK Activities related to the National Implementation plan on Stockholm Convention:
- Contribution from industries and private sector:
- Contribution from Universities and Research Institutions
- Bilateral donors

A.3.2 Management of healthcare and municipal waste.

To reduce UPOPs releases the country project's strategy aims at organizing and bringing the informal sector into the formal waste management sector through proposal contained in the integrated solid waste management (ISWMS) of 2010. UPOPs cover Articles 5 and 6 of the Stockholm Convention. According to NIP (2007):

- The major sources of U-POPs are incineration of medical wastes, open burning of municipal and agricultural wastes, and pulp and paper production. The only Pulp and paper mill in operation in Kenya is however currently closed
- There are inadequate air pollution control measures in place.
- The level of understanding of the management of incinerators by the operators is generally low and needs enhancement.
- There are inadequate analytical facilities and monitoring capacities of U-POPs.
- On wastes and stockpiles, the survey established that there are significant quantities not only of stockpiles but also of POPs contaminated wastes in Nairobi, Mombasa and Nakuru where open burning has been the practice for years.

The strategy for the minimisation of releases of UPOPS from open burning of waste will ensure that the national government will to enforce the existing rules of handling waste, provide for proper documentation and control of the waste disposal, control that the personnel handling the waste wear protective clothing (gloves, shoes) during collection, transportation and storage to reduce exposure. Activities for establishing standards and guidelines for incinerators are also envisaged.

In addition the County Government of Nairobi together with UNEP and JICA has completed an Integrated Solid Waste Management Study for Nairobi County providing the basis for replication in the other cities of Mombasa, Kisumu and Nakuru.

The Greenbelt Movement has already done some groundwork on plastic waste.Specific interventions to remove plastic waste from waste stream have been identified, and GBM is mobilizing its civil society network in preparation of this task. Community based organizations in all the participating counties are eager to take part in the project.

Currently, the following financing sources have been identified for the implementation of the baseline project:

- GoK Activities related to the HCWM (MOH, MEWNR)

- GoK Activities related to the National Implementation plan on Stockholm Convention:
- Contribution from project HCFs
- Contribution from Universities and Research Institutions
- Bilateral donors
- Private industry
- NGOs

Barriers analysis

Sound Management of Chemicals: Based on the Kenya National Chemical Profiles, the following have been identified as main barriers hindering the sound management of chemicals in the country:

- **Regulatory and Policy Barriers**
- Kenya has ratified most multilateral environmental agreements on chemicals and wastes covered by OPS of SAICM such as the Stockholm Convention, Basel Convention, Rotterdam, and ILO among others. However, domestication of some of the conventions and agreements has not been completed due to financial and technical impediments.

  Apparently there is adequate legal framework across the sectors which are under constant review. In addition, there are also non-regulatory voluntary instruments for chemicals risk reduction and general management. However, enforcement of the legislation is still weak. Regulation on U-POPs release from industries and waste disposal facilities are missing.

  There is significant importation of chemicals into the country of chemicals designated by international regulatory instruments as highly toxic. Unfortunately, the fact that GHS implementation is still far to come makes the management of toxic chemicals very difficult.

1. **Technical Barriers**

   The chemicals and hazardous waste industry, public interest groups and research institutions do conduct activities addressing chemical risks management at different levels of chemicals life cycle. However, most of the risk management projects and programmes are short term with limited follow-up activities. Furthermore, most of the activities are sectorally driven and implemented.

   There have been several chemical accidents and incidences that have resulted in deaths and injuries as a result of low level of chemical emergency preparedness, response and follow up in the country. This calls for putting in place emergency preparedness and response structures and mechanisms at national and local levels.

2. **Awareness and training barriers**

   The key challenges pertaining to chemicals management in the country arise from abuse and mishandling during importation, transport, export and use. The significance of this is exemplified by the increasing cases of chemical accidents, poisoning, air, water and soil pollution.

   There is insufficient information and data on chemical incidences and toxicity available to the public. Efforts towards generating and availing information to stakeholders are

underway though there is limited cooperation between the stakeholders who have the information and those who need to use the information for decision making.

There are chemicals monitoring, pollution and health data in both public and private sectors that address various aspects of chemical risks management. Access to the information and its application in chemical management is poor due to their mode of storage and retrieval making the establishment of a chemicals data exchange portal an urgent need.

There are national institutions charged with mandates of creating awareness among the workers and ensuring occupational safety at work places. However, awareness on chemical management among the public is still very low leading to misuse and mishandling of toxic chemicals with adverse effects on human health and environment

3. **Institutional Barriers**

There are specialized enforcement/ regulatory and research institutions and agencies in the country that address chemical management at different levels of chemicals lifecycle. However, they lack coordination arrangement and synergy in execution of their mandates and activities.

There are ad hoc inter-ministerial coordination mechanisms for chemicals and wastes that are specific and time bound. However, the country lacks a well organized inter-ministerial coordination mechanism for chemical management to enhance collaboration among ministries and respective agencies in implementing their respective mandates and competencies and facilitate information sharing. Consequently, resources mobilization and optimization to foster a comprehensive approach to the management of chemicals is inefficient.

There are national institutions with specialized human risk assessment capacities and technical infrastructure. Basic technical training in various aspects of chemical risk and hazard management is available locally at universities and specialised training institutions. However, there is a major deficiency in specialised training on chemicals of global concern and related technical infrastructure which require support from the government, development partners, private sector and the civil society.

There are institutional and administrative structures in the ministries and agencies to address chemicals risk management. However, there are deficiencies in terms of human and financial resources for chemicals management at all levels of chemical life cycle.

HCWM: The following barriers have been identified that prevent Kenya to consistently implement an integrated system for the sound management and disposal of HCW waste in the country and minimize negative health and environmental consequences from HCWM practices

- **Regulatory and Policy Barriers**:

Although a substantial amount of regulation on HCWM is in force in the country, the level of enforcement is very low. It has been very often observed, in course of the site visits, that HCW are dumped or open burnt in the vicinity of the hospitals. Most of the incinerators operates out of control without fulfilling the minimal requirements for occupational and environmental safety. The regulation need to be updated to become compliant with the WHO guideline on HCW and with the technical and environmental standards suggested by the SC BAT for the disposal of hazardous waste. No Hazardous Waste Manifest System for keeping track of waste production, transportation and disposal is in place.

- **Technical Barriers:**

  Many incinerators in operation are of very basic design, badly maintained and/or are inadequately operated, and as such are very far from the recommended value of 0.1ngTEq/m3 as recommended under the BAT guidance of the Stockholm and Basel convention. There is very low awareness in the country concerning to the BAT and BEP for HCWM disposal. There is the lack of a national-level or county-level planning on the management of HCWM, therefore most of the hospitals operate in the logic to dispose their own waste.

  Because of financial constraints and insufficient budget allocation for HCWM, many HCFs lack the necessary equipment/supplies/infrastructure to be able to practice good segregation, adhere to best environmental practices for HCWM and safeguard staff, patients and surrounding communities. This includes color-coded bags, waste bins, Personal Protection Gear (PPG) for those handling the waste; waste carts for transportation; (intermediate) storage facilities; designated HCW transportation vehicles; and (functioning) HCW treatment facilities adhering to BAT requirement (including fuel to operate them and budgets for spare parts and maintenance).

  Due to the fact that monitoring capacity for U-POPs are lacking, no measurement of the emission of PCDD/F from the existing incinerators / burning chambers have been attempted: this contributes to the lack of awareness of the hazard posed by the improper management of HCW.

- **Organizational/Institutional Barriers:**

  The most obvious reasons for identified shortcomings appear to result from insufficient training and awareness of staff in combination with limited financial and human resources allocated to HCWM at national, county and HCF level.

Municipal Waste: The following barriers have prevented Kenya to consistently implement a sound management and disposal of municipal waste:

- **Regulatory and Policy Barriers.**

  Again, although a significant body of regulation on municipal waste is in place, it is evident that an enormous gap exist between the rules and their implementation. Indeed, the common way for managing municipal waste in Kenya is open dumping and open burning without any substantial environmental control.

  There is no evidence of any Waste Manifest System to keep track of municipal waste collection, transportation and disposal. Most of the transportation and collection of waste is carried out in an informal way. In many cases, the waste is simply not collected and remain near the residential areas where they are produced.

- **Economic Barriers.**

  A 3R economy aimed at recycling valuable resources from waste is still missing. The economic model for waste recycling is centred on the dumpsite itself: informal communities are self organized for collecting waste at the dumpsite, and informal buyers go directly to the dumpsite to buy waste. The low quality of waste segregate and resold at the dumpsite has the detrimental effect to depress the market for recycled material, therefore perpetuating the poverty of people relying on the "dumpsite" economy.

  Door-to-door collection of specific waste stream is rare, and covers usually only the richest areas in the cities.

Dumpsite communities resist any modification on the municipal waste management because of poor performance of previous attempts and because they perceive that modifications may hinder their only source of income.

The access to the national market for recycled material is not well organized. Is very common to see foreign buyers buying recycled waste at the dumpsite, with the double effect to impoverish the communities because of the low price offered, and to spoil the country of valuable resources which if better used could contribute to the creation of jobs and business opportunities.

- **Technical Barriers:**

  Lacking of technologies and knowledge for the recycling of specific waste stream (for instance, LPDE plastic from plastic bags, organic waste) hinder their economic recycling. Therefore, these waste are often burnt at dumpsites.

  Lacking of the monitoring capability and related environmental standards for POPs and U-POPs generated by the waste management processes. At many dumpsites, infrastructures are poor. Electricity and water are missing, roads may became inaccessible during the rainy season,

  Most of the dumpsite are substantially out of control. The waste are not spread and compacted regularly because of the lacking of compactors. Open burning is common. Fire control systems are missing in all the dumpsites. All the other services and equipment like office and sanitary facilities, security, fencing, PPEs are missing in the majority of the cases.

  Most of the dumpsites are simply too big to be remediated, therefore the only option seem to be the monitoring of their releases, prevention of open burning, and reuse and recycling of waste upstream. This however is a process which still needs to be implemented.

- **Awareness and Training Barriers:**

  It is obvious that most of the members of the dumpsite communities are either not aware of the substantial risk they face by exposing themselves to the noxious substances and pathogens existing at the dumpsites, or being more or less aware they nevertheless opt to bear the risk because the work at the dumpsite is their only source of income. Therefore, raising awareness activities may be successful only as long as valid alternatives are offered.

  The awareness on the management and segregation of municipal waste is also strongly needed for the general population, to increase the willingness to reduce waste generation and to segregate waste at the source.

Stakeholder analysis

The main beneficiaries of the project activities are the general public, consumers and communities which may be exposed to U-POPs released by the disposal of healthcare waste, and to toxic substances (including POPs) contained or released into the environment as a result of improper disposal of municipal waste.

Health risks for people will decrease once a proper legislation regulating hazardous waste management is in place and enforced, and environmentally sound technologies for the management of waste are in place. The enforcement of environmental legislation will present not only a benefit for the environment, but also a key development factor.

At the decentralized level, project stakeholders are the counties Health and Environmental authorities, were the HCFs have been selected for the project activities, as well as the administration of the selected facilities.

On the municipal waste side, industries who are currently using materials which may be derived from a sound waste recycling operation, or which intend to invest or operate in the R3 economy are relevant stakeholders and will participate as project partner of the project.

Community based organizations are key stakeholders in the municipal waste sector: however, the involvement of informal recycler / collector depends also on their willingness to adhere a formal waste management system, regulated by a licensing system and compliant with norms and procedures for the environmentally sound management of waste.

County and District Level Institutions

The national institutions, established under the new constitution are required to decentralise their functions by establishing County and District Officers. Existing institutions already have a presence in the Counties and have or are in the process of establishing offices in the new Districts.The Constitution of Kenya 2010 creates an ambitious County Government structure based on principles of democracy, revenue reliability, gender equity, accountability and citizen participation. The roles allocated to the county governments include the implementation of national policies on environment and natural resources (including soil and water conservation and forestry) and local tourism, among others. The county governments established in each county have to include environment management committees to ensure sustainable use and management of natural resource.

Nairobi County is also the capital of Nairobi with a population of 3,5 million is the most industrialised county contributing some 50% of Kenya gross Domestic Product.

Mombasa county is the entry and exit point for Kenya's imports and exports. In terms of chemicals, most of the chemicals enter Kenya through this port whether destined for Kenya or for the east African land locked countries of Uganda, Burundi, Rwanda, Eastern Democratic Republic of Congo and Southern Sudan.

The city has about 150 manufacturing units employing 41,000 people in 2010(KAM)

Nakuru County is home to 600000people with agriculture, tourism and manufacturing being the backbone of the county's economy. Nakuru is also home to the Naivasha sub county that hosts the largest conglomeration of flower farms that use chemicals.

Kisumu is the outlet throughLaheke Victoria and for goods destined through Busia and Malaba border points. It host several regional institutions that deal with water quality of Lake Victoria and thewater of the Nile River.

Civil society and development partners

NGOs in Kenya are involved in a number of social, economic, environmental and political issues. Their work covers gender, human rights, environment, advocacy and participatory development. The majority have been assisting in strengthening civil society through informing and educating the public on various issues, such as their legal rights, entitlement to services or by helping them attune to government policies.

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Table 8: Key Stakeholders and their roles in the project

STAKEHOLDER	RELEVANT ROLES
Ministry of Environment, Water and Natural Resources (MEWNR)	Leadership and coordination for the implementation of the project. Executing and implementing the project. Providing co-finance. Technical consulting and capacity building.
National Environment Management Authority (NEMA)	Advisory oversight at executive level, Support at a policy advisory level
MOH	Leadership and coordination for implementation of the project. Executing and implementing the project. Providing co-finance. Day to day operational execution of the project. Technical consulting and capacity building. Marketing and infrastructure development.
GCD	Providing co-finance. Executing and implementing the project. Marketing and infrastructure development. Support to development and growth
UON	Implementation of selected project activities under guidance and support of UPOPS Monitoring.
AAK	Providing co-finance. Executing and implementing the project. Marketing and infrastructure development. Support to development and growth of the Southern Rangelands conservancies
KAM	Providing co-finance. Implementation of the project activities. Support to development and growth of the private sector
GBM	Providing co-finance. Executing and implementing the project. Marketing and infrastructure development. Support to development and growth of the Southern Rangelands conservancies
MOMBASA Integrated	Responsible for the implementation of the project activities. Participating in education and capacity building activities.

STAKEHOLDER	RELEVANT ROLES
Catholic Association	Providing linkage between the capacitated Southern Rangelands conservancies, Northern Rangelands Trust, investors and conservancy owner-managers on a national level

II. STRATEGY

General considerations underpinning project strategy

As illustrated by the above, Kenya can be described as a country that is progressively reaching a fairly stable and economic situation and which is proactively proceeding with addressing its immediate major POPs issues as well as initiating the implementation of Sound Chemical Management program. The country, being at a critical turning point of its development, needs to address urgently the main POPs issues, with specific reference to U-POPs generated during the open-air disposal of municipal and hospital waste, the lack of coordination among the authorities in charge of implementing the SC and the other MEAs, the lack of integration of the SC convention requirements into the existing regulations, and to do so in a more coordinated fashion that is integrated with the broader SCM framework being developed. This is the basic rationale for overall GEF-5 Chemical Focal Area Programmatic approach which also of concern this project.

The GEF support is crucial and catalytic for enhancing and completing the ongoing process of environmental law-making, as well as for providing technical and financial assistance for reducing the amount of U-POPs generated with improper management of waste by adopting a 3r approach (reduce, reuse, recycle) in the relevant sectors, and by piloting alternative solutions for the disposal of healthcare waste, developed specifically for African countries in the course of the Global Healthcare Waste Project.

Strategy related to the Sound Management of Chemicals

The Kenya government, by reviewing and updating its NIP and by approving its SAICM implementation plan, has already established sound pillars toward the sound management of chemicals. There is now the need to start in an effective way the implementation of the plans envisaged by both NIP and SIP. The NIP identified the need to increase awareness among the industry and civil society on cleaner production, and on alternatives to POPs; at the same time both the NIP and the SIP identified the need for the increase in analytical service and the establishment of more sustainable laboratory services. Both NIP and SIP listed the improvement of regulation texts and their enforcement as a key stage toward the implementation of a sound management of chemicals.

At the same time, it is clear that under the project not all the issues related to the management of chemicals can be solved. therefore the project component dealing with the Sound Management of Chemicals will focus on the chemical-related activities which have more synergies with the other two project components. The project is therefore expected to boost the technical capacity of the country in sectors like:

- Improve the country legislation on chemicals, with the objective to speed up the implementation of GHS, define quality and technical standards for disposal processes.
- Increase the knowledge and awareness of risks related to chemicals with a life cycle perspective, promoting alternative to POPs and other hazardous substance, preventing the use of materials that may generate / release POP as a consequence of their improper disposal, ensuring the proper disposal of chemicals to avoid their release in the environment ;
- Ensure that the country has the capacity to monitor the presence of POPs in the relevant environmental media, with specific focus on air quality, atmospheric emission and specific waste streams.

This will be done by a number of different project activities encompassing gap analysis of the current regulation, classroom training and practical training (on field and in the laboratory), establishing of dedicated institutions and committees, procuring and demonstrating sampling equipment.

Strategy related to the health-care waste management.

1.The objective of the project pertaining to HCWM is to protect human and environmental health by reducing releases of UPOPs and Mercury from the unsound management of HCW, in particular the sub-standard incineration and open burning of healthcare waste. The project will build capacity at national, county and HCF level for the introduction of Best Available Technologies (BAT) and Best Environmental Practices (BEP) to improve the management and treatment of HCW wastes. These efforts will be further enhanced by drafting and disseminating technical guidance on HCWN, officially endorsed by the government, strengthening the legislative and policy framework governing HCWM and Mercury at national and county level as well as improving HCWM awareness and education.

The proposed project is entirely fully aligned with Kenyan national policies and priorities related to HCWM as well as UPOPs reduction priorities taken up in the reviewed and updated NIP, from which it results that U-POPs emission from the healthcare waste is

Increase segregation and minimisation of waste. One of the key aspects reported in the HCWM plan is that *"Poor segregation, and poor choice of technology for treatment and disposal of waste are two problems identified that are due in part to inadequatemanagementpracticesorsimplybecauseofabsenceofadequateprovisionofwasterecept acles."* This was indeed confirmed during the preparatory activities of the project.

Minimisation and segregation of HCW to reduce the volume of waste to be disposed of. As poor segregation results at the same time in higher disposal cost for the hospital (due to the higher volume of hazardous waste to be treated), higher infection risk (due to larger volume of hazardous waste which are improperly disposed because) higher release of U-POPs, dust, and toxic substances in the atmosphere (due to the fact that plastic-containing waste are often improperly incinerated or open burnt because this is the cheapest and most immediate option available to the hospitals), the first step to be addressed by the project will be to ensure that waste are minimised or properly segregated at the source. This will be done mostly by establishing and enforcing HCW management units in the HCFs (in some case already existing but ineffective) and providing on-site continuous training and technical assistance to the personnel of each project HCF throughout the whole duration of project implementation. In addition, key waste management equipment (bags, bins, cart, sharp boxes) will be provided to the project HCFs.

Improvement of HCW disposal technology and increasedcentralisation of waste disposal. Even in areas where the transport infrastructure is relatively in good condition, the logic of "one HCF one disposal equipment" prevails. The result is hospital being equipped in most cases with small, sub-standard or non-functional disposal equipment; in many cases, the waste are either dumped not far from the hospital, or open burnt. In many of the hospital visited, the air within the facility resulted heavily polluted by the noxious fume emitted by these unhealthy waste disposal practices. It is evident that a progressive shift toward centralization of waste disposal is necessary. Therefore the strategy of the project is to rank project facilities in 3 categories:

1) Small facilities where no treatment or disposal plant will be installed under the project. In these facilities, the project assistance aims at ensuring minimization of waste production, proper segregation, and safe storage/transportation. Basic waste disposal equipment will be provided to these hospitals (bags, bins, carts, sharp boxes).

2) Large or medium size facilities currently equipped with out of order or sub-standard incinerators, which can be replaced under the project by non-incineration equipment for the treatment of waste, generated by the same facility or by the small facilities in previous point 1). It is envisaged that under the project a maximum number of 4 medium size non-incineration equipment composed by shredders steam autoclave will be deployed to these facilities.. In these facilities, the project will provide training and technical assistance, basic waste disposal equipment, and the waste treatment equipment.

3) A large or medium size HCF currently equipped with a working double-chamber incinerator, which can be used to dispose waste generated by the same facility or by the small facilities in previous point 1. In this facility, the incinerator will be upgraded by installing a complete APCM train which may include quencher, bag filter, neutralizer, and an activated charcoal column. The upgraded incinerator will be used for disposing only the hazardous waste which cannot be processed differently. The incinerator will dispose therefore the hazardous waste generated by the hospital itself or by the HCF listed under the previous point 2 after steam disinfection.

This component will be properly integrated with the development / endorsement of official guidance document on the management and disposal of HCW, training either in the facilities or in training centers, improvement of the existing legislation, drafting, endorsement and enforcement of technical and environmental standards for HCW treatment.

In addition to the above, an important aspect of this project component is its integration with the "Clean Tech East Africa (CTEA)" initiative sponsored by JICA related to the development of an incinerator for hazardous waste in Nairobi. The CTEA project aim at developing an integrated system which is centred on a large rotary kiln incinerator equipped with state of the art APCS, compliant with the Stockholm Convention, and including containerized systems for transport of waste. The CTEA project includes also a training center to build local personnel capacity.

There are many areas under which this UNDP project and the CTEA project may find synergies:

1. The CTEA project will provide a technology integrating the disposal or pre-treatment of waste by local steam disinfection, as part of the HC (for instance chemical waste or anatomical waste) cannot be processed by steam autoclave;
2. The transportation system which will be developed under the CTEA project perfectly complements the UNDP project which mainly deals with the optimization of waste management within hospital facilities. From one side, the transportation system will ensure the safe transport and traceability of waste sent by the facilities for disposal; on the other side, the improvement of the segregation of HC waste will ensure that the transportation system is utilized in the most efficient way.
3. The GEF/UNDP project will be complementary to the CTEA project by improving the existing guidance and criteria for the proper management of healthcare waste, assisting GOK in enforcing the regulation on HCW, and therefore securing the sustainability of both the UNDP and CTEA projects.

Strategy related to the Municipal Waste

In the priority area of integrated solid waste management to reduce releases of dioxins and furans, emphasis will be placed on pilot experiences of improved practices for the management of solid wastes. This will include waste separation and recycling, such as those financed by JICA and the European Union, and for the development of small businesses based on waste recycling and composting. GEF funds would be used in an incremental manner to support the

systematization, replication and diffusion of the dispersed pilot initiatives supported by other donors, resulting eventually in improved waste management nationwide; awareness raising regarding the health implications of dioxin and furan emissions from waste disposal; and the strengthening of municipal governments.

The project will enhance the country strategy to organize and bring the informal sector into the formal waste management sector through proposal contained in the integrated solid waste management (ISWMS) of 2010. Although the project will identify emergency measures to put in place at waste dumpsites, the main objective will be to prevent waste flow from being burnt at these dumpsites. This will be achieved by enhancing the "3R" economy and enabling municipalities to establish PPP schemes with the support of NGOs that can at the same time reduce the waste flow being burnt, reduce poverty and provide an alternative opportunity for people living at the dumpsites.

One of the key aspect that the project intend to enhance is the improvement of the quality of the entire supply chain of recyclable materials: specifically waste plastic and waste organic. The quality of both recycled plastic and organic waste may be enhanced by securing the collection of waste before they are dumped in the landfills.

For plastic, this entails the demonstration of door-to-door collection of the main type of plastic waste and the direct selling to local industry. This will prevent a number of social and environmental issues, like the accidental burning of plastic at the dumpsites, the contamination of plastic waste resulting in the loss of their quality and market price and the consequent selling of this valuable resource at a very low price, to foreign investors. However, enhancing the collection scheme need to be paralleled by the individuation of marked access for specific plastic materials. Whilst there are a number of applications for the industry-level recycling of PET bottles, the recycling of LDPE bags is much more challenging. Therefore, for LDPE the strategy will be both aimed at enhance the reuse, promote degradable materials, and enhance the collection of used, clean plastic bags directly by means, for instance, of collection points to be established at shops and supermarket.

Considering the lacking of HCWM equipment observed in the visited HCFs, one of the possible initiative which has been explored was to establish a production line for plastic bins, cart and bags made of recyclable plastic.

The meetings with representatives of the plastic recycling industry and with plastic waste collectors brought to evidence the following aspects, which will be integrated in the project strategy:

1. In Kenya 4-5 large plastic recycling plants are operational. In Nairobi a large facility visited in the course of project preparation recycles between 400 to 700 t/months of plastic waste. It has the capacity to produce many different products from recycled plastic, including plastic bags, and may be a good candidate for producing good quality plastic bins and carts for the collection and transportation of healthcare waste within the hospitals.
2. Plastic article manufacturers could even contribute to the transportation of plastic waste using the same trucks they are using for transporting plastic products.
3. Plastic recyclers could receive the following benefits from their partnership with the project:
    a. An increase in plastic waste quality, which may be achieved by ensuring proper training of the waste collectors, proper storage, and by ensuring that the plastic waste are collected at the source before they reach the dumpsites. This may decrease the energy requirements of plastic recycling factories.

b. A decrease in plastic waste cost. This may be supported by the project either by a limited degree of subsidizing plastic collectors, or providing proper equipment to the waste collectors (plastic waste shredders, storage facilities, transportation vehicles). Subsidizing may be not sustainable in the long term after project closure.
c. Promoting a better regulation of the sector. The interviewed manufacturers complained about the high level of harassment they have to face; about the double taxation to which they are subjected as they are simultaneously waste processor and manufacturers; about transportation taxes which are charged each time they cross the border of a county with their trucks. They also reported difficulties to comply with the certification established by the Kenyan Board of Standards. Due to these difficulties, in the factory visited by the delegation, the amount of waste processed monthly was reduced from 700t/months to less than 400t/months. In few words, it seems that the current situation is that plastic recycling is discouraged. The project can bring significant support on this aspects by establishing an "end of waste" regulation / guidance which based on a quality certification scheme at the side of waste collectors, can ensure that certified plastic waste may be formally considered as "non waste" and therefore sold as raw material to the manufacturers, avoiding them to be licensed as waste processors; assist the government in the establishment of standards for plastic recovered material; assist the industries in carrying out the test for certifying their plastic products.
d. The project, by promoting, in agreement with the government, a policy of "green procurement" in relevant sectors (including healthcare waste), may further enhance the demand for specific type of products like bins for waste collection, cart for waste transportation within hospital facilities, etc.

For the civil society such as the Greenbelt Movement and other community based organizations in Mombasa and Nakuru, the project will also develop specific institutional capacities in support of the concrete investments. Practical guidelines will be developed and staff training provided on the management and disposal of solid wastes in ways that avoid the emission of dioxins and furans, such as waste separation and recycling. This will principally be directed at municipal authorities and community based groups which will be managed by ILIMA.

In terms of appropriate roles for NGOs, CBOs and local authorities, there are evidences that communities are more than willing to provide for themselves, urban service like waste management when local authorities are unable to do so in line with the BAT/BEP guidelines of the Stockholm convention. In providing advice, training, and credit to these organizations, NGOs will have an important role to play in meeting the conventions objectives. The resources of local authorities will therefore be best employed in regulating, coordinating and advising CBO and NGO efforts in the provision of urban services like waste management. The Greenbelt Movement could use its superior community mobilization skills to achieve this.

The project will also strive at drafting and implementing risk-based emergency countermeasures to prevent and reduce the exposure of people to hazardous substances released from landfills. These countermeasure, will take into due consideration the social and resettlement issues that may arise from the restricted access to landfills for people who were relying on the “dumpsite economy”; landfill surveillance and management plans; implementation of temporary activities / infrastructures aimed at preventing the dispersion of contaminant in the environment.

Addressing gender issues with specific reference to impact of HCW

The main project objective is to prevent and reduce health and environmental risk related to POPs and harmful chemicals through their release reduction achieved by provision of an integrated institutional and regulatory framework covering environmentally sound Health Care Waste and E-waste management.

However, in addition to reducing UPOPs and PTS releases, improved HCWM practices in a healthcare facility, generally also reduce the occurrence of hospital-acquired infections (nosocomial infections) associated with unsafe waste management practices currently in place in many facilities. Improved HCWM can lead to a reduction in human suffering as well as lower cost implications for national healthcare systems.

Medical staff, nurses and patients are at a high risk for infectious diseases in hospitals, therefore they will be the direct beneficiaries of project activities. In addition, nurses, as in other similar projects, have usually a key role in ensuring that the proper management of healthcare waste is adopted in the day-to-day practices, and are therefore among the key resources for the day-to-day project implementation.

This GEF project emphasizes building awareness of the links between waste management and public health (including occupational exposures), with a special focus on the health implications of exposure to dioxins and Mercury for vulnerable populations, such as female workers, pregnant women, and children. In addition to relevant national ministries, hospital, and health clinics, key partners in the program include healthcare professionals, waste workers, and providers of waste management services (among the most vulnerable sub-populations), as well as NGOs and civil society organizations operating in the area of health, women and the environment.

Women represent a large portion of workers employed in healthcare services (according to the U.S. Bureau of Labor Statistics, 73% of medical and health service managers are women). Although similar statistics are not available for Kenya, it can be assumed that the majority of healthcare workers are female. Therefore, the “nature” of the target beneficiaries instinctively lends itself to target women as key stakeholders. Additionally, the project will encourage, in the model HCFs, the emergence of ‘champions’ of better HCWM practices. Experience from the Global Medical Waste projects demonstrates that this values-based effort can reinforce women empowerment within the HCF staff and administration.

In both developed and developing countries, many healthcare workers (such as nurses) receive low remuneration and face hazardous working conditions, including exposure to chemical agents that can cause cancer, respiratory diseases, neurotoxic effects, and other illnesses. As developing countries strengthen and expand the coverage of their healthcare systems, associated releases of toxic chemicals can rise substantially, magnifying the risks experienced by healthcare workers and the public.

As part of this project capacity building, training, curricula, etc. are developed and tailored to different training recipients within the healthcare sector, such as i) Trainers; ii) Medical staff, such as doctors, nurses and paramedical staff, iii) Hospital maintenance and sanitary staff iv) Administrators, etc. Training is also tailored and provided to support services linked to healthcare facilities, such as laundries, waste handling and transportation services, treatment facilities as well as workers in waste disposal facilities. At national level awareness on HCWM issues is created among the general public, patients andfamily but also among decision makers at national, regional and district level that have significant influence on the development and approval of HCWM related budgets.

On the side of municipal waste, women and children are often among the most exposed to the dangerous substance and pathogens organisms contained in waste, emitted during waste fermentation and degradation, and released during the open burning of waste. Although the project does not differentiate activities based on sex or age of the involved communities, nevertheless it is well known that, due to their physiological characteristics (lower weight and similar respiratory volume) women and children may have a comparatively higher benefit from activities aimed at reducing the exposure to toxic substance and pathogens.

Policy context

Kenya has ratified the Stockholm Convention on POPs on 24/09/2004, and the Basel Convention on the Trans-boundary Movement of Hazardous Waste and their Disposal on 01/06/2000. Kenya has also ratified the Rotterdam Convention, and is signatory of the Minamata Convention on Mercury.

Kenya is the first African country in submitting its reviewed and updated NIP in compliance with article 7 of the Stockholm Convention.

Kenya also drafted its National Chemical Profile under the SAICM Enabling Activity in August 2011.

The above prove the strong importance the country attaches to the issue of sound management of chemical and waste.

On the other side, the fact that Kenya, although committed, has not yet adopted of GHS for the classification of hazardous substances is a sign of the need for further assistance in the complex field of classification of hazardous substance. This aspect is crucial for the country to access the international market of chemicals.

The project is compliant with the policy and action plan established by the country under the reviewed and updated NIP, as well as under the National Chemical Profile.

Legal context

The project is fully compliant with the Kenyan Environmental Regulation, and more specifically with the regulations established under the EMCA on Waste Management Regulation, Air Quality Regulation, Environmental Environmental Impact Assessment, and with the existing specific regulation on Health Care Waste.

All the facilities and technologies established under the project will be permitted in compliance with the requirements set by the above regulations and with the relevant provisions and guideline established under the Stockholm and Basel conventions.

In addition to that, specific outputs of the project are aimed at improving the integration of the Stockholm regulation within the national regulatory system, and at enhancing the enforcement of specific provisions on healthcare waste management and municipal waste management.

The project will ensure the improvement of the existing regulation on Health Care Waste by integrating and customizing the WHO guideline in HCWM under the National regulation on HCWM.

Project Rationale and Policy Conformity.

The project is fully compliant with the Global Environment Facility (GEF5) Chemicals strategy objective 1 and 3 as it will support GEF intervention addressing POPs and U-POPs. In supporting sound chemicals management it will in effect extend support to other chemicals of global concern beyond POPs in order to capture additional global environmental benefits.

The ultimate intention is to improve Kenya's compliance with the Stockholm Convention on Persistent Organic Pollutants particularly dioxins and furans. The project will support GEF commitment to addressing air quality by avoiding emissions of POPs among other air pollutants such as greenhouse gases. Indeed, in Kenya, open burning of waste is the most used method of waste disposal though it is known to be major source of (UPOPs). The project is in line with the GEF global priorities related to the financing mechanism for the Stockholm convention because Kenya as developing country is eligible for this assistance. Further, the project is eligible in the context of the guidelines provided by the Conventions Conference of Parties (COP) such as it will:

1. Support implementation of the chemicals and waste multilateral environmental agreements
2. Implement the commitments made at the 1st Session of the International Conference on Chemicals Management (ICM1)
3. Enable Kenya to fulfil their obligations under the Convention
4. Develop and implement activities identified in the Kenya National Implementation Plan (NIP);

The project will support or promote capacity-building, including human resource development and institutional development for both governmental and non-governmental institutions at both central and local level.

Although the project has been developed under the GEF5 strategy framework, it is also fully consistent with the GEF-6Chemical and Waste area strategy,1: " CW 1: Develop the enabling conditions, tools and environment for the sound management of harmful chemicals and wastes" and with the with the GEF-6 Chemical and Waste area strategy, 2: " CW 2 Program 3: Reduction and elimination of POPs." The project will contribute to the achievement of GEF's main indicators under this strategic programming area through the interventions described in the Project Description and in the Result Framework.

With specific reference to CW 1, (Program 1: Develop and demonstrate new tools and regulatory along with economic approaches for managing harmful chemicals and waste in a sound manner) the project aims at implementing specific action plansas on sound chemical management to address the priorities listed in the SIP and NIP, and at the same time will strive to solve the social and environmental issue posed by the unsafe dumping of municipal waste, establishing innovative community driven collection schemes aimed at increasing the overall value of the recycled waste by capturing the waste before being dumped and qualifying the downstream local demands for recyclables in the relevant industrial sector.

As far as CW2 is concerned (Program 3, Reduction and elimination of POPs) the project will implement activities in the healthcare waste and municipal waste sector aimed at the (c) Environmentally sound management of POPs-containing wastes in accordance with the Basel Convention and its relevant technical guidelines, and at the (i) Design of products and processes that minimize the use and generation of hazardous substances and waste.

Project Description

Project Goal, Objective, Outcomes and Outputs/activities

The **Objective** of the project is the"Reduction of the release of U-POPs and other substances of concern and the related health risk through the implementation of ESM management of municipal waste and healthcare waste and of an integrated institutional and regulatory framework covering management and reporting of POP"

The project intends to achieve this objective through improving the regulatory system, enhancing its enforcement, raising awareness on POPs, and by establishing the capacity for safe handling, transport and improved disposal of POPs containing or POPs generating waste.

This will contribute to the reduction of risk for the human health and the environment by avoiding the release of POPs in the environment and preventing people's exposure to POPs.

The project encompasses five components (including Monitoring and Evaluation) as following:

- Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MEMWNR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs
- Component 2. Introduce environmentally sound management of health care waste in selected healthcare facilities;policy and strategic plans to prepare them to adopt BAT and BEPdisposal.
- Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county
- Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste.
- Component 5. Monitoring, learning, adaptive feedback, outreach and evaluation.

The detailed project design inclusive of cost estimates is elaborated by component against each outcome and output/detailed activities in Table 9 below. Detailed descriptions and explanation of cost estimates follow in this Section. This is further defined in Annex A in the Project Results Framework in terms of indicators, corresponding baseline and project cycle targeted outputs.

Table 9Elaborated project design framework and cost estimate by Outcome and Output/Activity

Outcome	Output/Activity Description	Cost Estimate (US$)		
		Total	GEF	Other
Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MEMWNR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs				
		GEF grant	Co-financing	Total budget
Outcome 1.1 Policies, strategies Regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities and specifically those of the Stockholm convention and the SAICM recommendations, adopted and institutional capacity on U-POPs and waste management enhanced	Output 1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented.	40,000	200,000	240,000
	Output 1.1.2: Key institutions have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations to international agreements	40,000	100,000	140,000
	Output 1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities..	30,000	100,000	130,000
	Output 1.1.4 National coordinating meetings on POPs held regularly (4 times per year). without GEF financial support	0	200,000	200,000
Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.	Output 1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis	250,000	500,000	750,000
	Output 1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in curriculum	100,000	600,000	700,000
	Output 1.2.3. PRTR Database and reporting system in place.	40,000	300,000	340,000
Total Component 1		500,000	2,100,000	2,500,000
Component 2. Introduce environmentally sound management of health care waste in selected healthcare facilities; policy and strategic plans to prepare them to adopt BAT and BEP disposal.				
Outcome 2.1 Personnel of hospital facilities and control authorities at central and county level have enough capacity guidance and equipment to manage healthcare waste in an Environmental Sound Manner	Output 2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities built on lessons and examples from the application of the I-RAT tool under GEF4 /UNDP projects worldwide and on the WHO bluebook “Safe Management of Wastes from Health-care Activities” developed and adopted	40,000	500,000	540,000
	Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM	50,000	300,000	350,000

Outcome	Output/Activity Description	Cost Estimate (US$)		
		Total	GEF	Other
	drafted and adopted by the MOH.			
Outcome 2.2 Implementation of BAT/BEP at selected hospital facilities successfully demonstrated and measured against the baseline	Output 2.2.1 Hospital personnel at all level trained on the implementation of the above procedures	148,000	600,000	748,000
	Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented	32,000	120,000	152,000
	Output 2.2.3 ESM management of healthcare waste (based on WHO bluebook) implemented in 4facilities in each county (12 facilities)	600,000	600,000	1,200,000
	Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM management against baseline is carried out and estimate amount of U-POP release avoided.	30,000	120,000	150,000
Total Component 2		**900,000**	**2,240,000**	**3,550,000**
Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county				
Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed	Output 3.1.1 Feasibility study and term of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted.	70,000	50,000	120,000
Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully established and demonstrated, with a potential reduction of U-POPs emission in the order of 20gTeq/year	Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste in the order of 630t/yr	1,640,000	8,000,000?	9,640,000
	Output 3.2.2 Useful replication toolkits on how to implement best practices and techniques are developed	40,000	50,000	90,000
Total Component 3		**1,750,000**	**10,100,000**	**8,750,000**
Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste.				
Outcome 4.1. Awareness raising and capacity strengthening on ESM management of solid waste ensured..	Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs (R3) of waste	20,000	300,000	320,000
	Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central level improved to integrate SC requirements	20,000	200,000	220,000
	Output 4.1.3. Counties provided with training, manual, and technical assistance	20,000	400,000	420,000

Outcome	Output/Activity Description	Cost Estimate (US$)		
		Total	GEF	Other
	for the management of solid wastes.			
Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, with a reduction of unintentionally produced POPs from the burning of solid waste of 80 g I-TEQ/year (20 % of the current estimate of 400 g I-TEQ/year), to be confirmed .Emergency plan to reduce exposure of population to harmful substances implemented.	Output 4.2.1 Communities selected for demonstrating plans and actions for the reduction of solid waste open burning by increasing 3Rsof waste.	10,000		10,000
	Output 4.2.2. Initiatives for reducing,reuse and recycle of waste and for composting, collection of compostable municipal waste for communities in three counties of Nairobi, Mombasa and Nakuru implemented with a PPP approach and supervised with the support of NGOs.	490,000	1,580,000	2,490,000
	4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics).	290,000	2,000,000	2,790,000
Outcome 4.3 Municipal waste disposal sites with adequate management practices (non-burn).	4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues and cleanup plans for at least 3 landfills drafted.	50,000	100,000	150,000
	4.3.2. Emergency measures for reducing release of contaminant in the environment and the exposure of the population implemented in one high priority site.	100,000	200,000	300,000
Total Component 4		**1,000,000**	**5,300,000**	**6,300,000**
Component 5: Monitoring, learning, adaptive feedback, outreach and evaluation		**150,000**		150,000
Total All Components				
Project Management Budget		**215,000**	**850,000**	1,065,000
Project Total				

The following provides the description of Outcome and Output(s) under each of the project's component.

Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MEMWNR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs (GEF Grant:500,000 USD; Co-Financing: 2,100,000 USD)

Outcome 1.1 Policies, strategies Regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities and specifically those of the Stockholm convention and the SAICM recommendations, adopted and institutional capacity on U-POPs and waste management enhanced.

Activity leading to this outcome are mainly envisaged at strengthening the Kenyan regulatory framework and their enforcement in the field of U-POPs with specific reference to the establishment of technical and environmental standard related to the emission of U-POPs from waste management. Under this outcome, the following outputs will be delivered:

- Output 1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented. Based on the SAICM and NIP priorities, a gap analysis of the key Kenyan environmental regulation will be completed. Its aim will be to prepare a policy and legislation review roadmap, addressing technical and environmental standard for waste treatment equipment; including health care waste, regulation related to the risk-based acceptable level of hazardous chemicals (at least POPs and heavy metals) in recyclable waste, and the development and of a PRTR decree. The new / updated regulations will then submitted to the GoK regulatory body for approval and promulgation.
- Output 1.1.2: Key institutions have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations to international agreements. This output will be the result of activities aimed from one side at assessing and from the other side at satisfying capacity building needs for central and local institutions. Innovative approaches will be adopted to ensure that the training and capacity building are efficient, effective and sustainable: the trainings will be preceded and followed by assessment of the trainees; successful trainees will receive a certificate in Chemical management; an award for the most successful trainees consisting in contracts on Chemical Management at key Kenyan institutions will be established.
- Output 1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities. The activities leading to this output will mainly consist in the drafting of specific guidance documents, integrating the risk assessment criteria, for the guidance and procedures for the integration of POPs issue in production processes and waste management. These guidance will have to be streamlined in the procedures existing at national and local level for the permitting of production process and waste management. Staff from local and national authorities will be trained and inspections and verification for the fulfilment of POPs regulation in the country carried out.
- Output 1.1.4 National coordinating meetings on POPs held regularly (4 times per year). without GEF financial support. A National Chemical Management Coordination office

established at the Ministry of Environment, composed by representatives of relevant governmental Ministries, will be established. Coordination Meetings of the National Chemical Management Coordination Office will occur at least four times per year without GEF support.

Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.

- Output 1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis.One of the main shortcoming of project-funded monitoring project lies in the fact that sustainability of laboratory operation is not ensured after project end. Therefore, this output, rather to the procurement of equipment, will consist in the development and implementation of a national concerning the environmental and industrial monitoring, identifying POPs monitoring obligation for key industrial and waste management activities developed and implemented. In addition, proper training conducted key Kenyan laboratories on POPs monitoring will be carried out, and two key laboratories will receive the ISO 17025.accreditation for specific sampling and monitoring activities.
- Output 1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in curriculum. University curricula for chemical risk assessment and management of hazardous chemical and hazardous waste adopted by at least ___ training institution. One cycle of curricula completed in at least 2 universities within project timeframe.
- Output 1.2.3. PRTR Database and reporting system in place.A pilot POPs/PTS database will be established to contain data related to industrial sources, and POPs contaminated sites in at least 2 Kenyan counties, and available POPs environmental data countrywide.

Component 2. Introduce environmentally sound management of health care waste in selected healthcare facilities; policy and strategic plans to prepare them to adopt BAT and BEP disposal. (GEF GRANT: 900,000 USD. Co-Financing: 2,240,000 USD)

Outcome 2.1 Personnel of hospital facilities and control authorities at central and county level have enough capacity guidance and equipment to manage healthcare waste in an Environmental Sound Manner.

All the outputs delivered under this outcome have the purpose to strengthen the HCWM in hospital facilities with the twofold objective to minimise the generation of hazardous waste and implement Best Available Techniques and Best Environmental Practices for the management and disposal of medical waste. This outcome will benefit from the experience and lesson learned through many other HCWM - related projects implemented by UNDP worldwide, and will be based on the exhaustive guidance developed by WHO on HCWM.

- Output 2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities built on lessons and examples from the application of the I-RAT tool under GEF4 /UNDP projects worldwide and on the WHO bluebook Safe Management of Wastes from Health-care Activities" developed and adopted . Basically, this entail the revision and or development of the Kenyan HCWM guidelines based on the last edition of the WHO bluebook (tailored to various facility types) which include tool and procedures for rapid assessment of HCWM, management rules for the proper segregation and monitoring of HCW, etc. The new guidelines will be a practical

document to be disseminated in all the Kenyan HCF. The above guidelines are officially adopted by all the selected project HCFs.

- Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the MOH. The national healthcare waste handbook will contain at least general management rule for the implementation of HCWM scheme at county level, based on the progressive centralization of disposal facilities, will include recommendations for the selection of the proper waste treatment or disposal equipment, and technical / environmental standards for establishing, operating, testing and monitoring of combustion and non-combustion disposal technologies. It will also include emission and discharge standards for U-POPs in compliance with SC BAT and BEP.

Outcome 2.2 Implementation of BAT/BEP at selected hospital facilities successfully demonstrated and measured against the baseline.

All the output delivered under this outcome are relate to the practical implementation of HCWM best practices in the12 selected facilities.

In summary, this will envisage: the quantitative baseline assessment of the performance of each selected facility in term of HCWM, based on the IRAT tool; delivery of training and technical assistance at facility level; final assessment at project end of the HCF performance.

- Output 2.2.1 Hospital personnel at all level trained on the implementation of the above procedures. All the staff of the selected facilities will be trained on the BAT and BEP for HCWM, based on the guidance document developed under Outcome 1, including the proper use of PPE. National experts to be deployed to HCFs will be trained under this output.
- Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented .With the technical assistance of national and international expert, all the HCFs will be assessed through the application if the I-RAT tools . In addition, the U-POPs emission attributable to the baseline situation of each facility will be calculated.
- Output 2.2.3 ESM of healthcare waste (based on WHO bluebook) implemented in 4facilities in each county (12 facilities).For each HCF, this will envisage the signature of Memoranda of Understanding (MoUs) ; HCWM committees of all HCFs strengthened or established where missing; HCWM policies, procedures and plans developed and implemented at each project HCF; HCFs supported in minimizing waste streams, improving segregation and introducing recycling activities; each HCFs evaluated to verify introduction of BEP practices. In addition, the necessary HCWM equipment will be provided for each facility, based on the assessment needs identified under Output 2.2.2.
- Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM management against baseline is carried out and estimate amount of U-POP release avoided. Final assessment will be conducted for each of the HCFs participating/ benefitting from the project with the assistance of properly trained project consultants. UPOPs after implementation of best practices in HCWM determined for each project facility.

Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county-(GEF grant: 1,750,000 USD. Co-Financing: 10,100,000 USD)

Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed.

The output delivered under this outcome will have the main purpose to implement the HCW disposal strategyenvisaged by the project, i.e. demonstration of non-combustion pre-treatment equipment in a limited number of HCF, and upgrading of an existing incinerator in a selected facility if this is technically and economically feasible. This strategy requires some pre-conditions which will need to be carefully verified. Concerning the establishment of non-combustion pre-treatment equipment (basically steam autoclaves), these will be installed in medium-size facility where the staff is already at least partially knowledgeable about best HCWM practices. This because the proper operation of non-combustion pre-treatment facility at hospital level will require an effective implementation of segregation procedures to ensure that the proper waste stream are fed to the equipment. A proper waste manifest system will be also enforced to ensure that waste treated - either from the same facility or from other facilities - is properly tracked. A careful technical and economical feasibility analysis for the upgrade of a double chamber, up-to-date incinerator will be carried out.

- Output 3.1.1 Feasibility study and term of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted.Based on the analysis of baseline assessment of the served facilities, the proper size and technical characteristics of the treatment facility will be identified. Technical specification and term of reference will be drafted with the purpose to issue international bids for the procurement of the equipment. Under this output, a double-chamber incinerator will also be assessed to verify whether it can be upgraded with proper APCS to ensure the fulfilment of Stockholm Convention recommended BAT standards for the release of U-POPs. In case of positive outcome of this assessment, technical specification and term of reference will be drafted with the purpose to issue international bids for the procurement of the APCS.

Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully established and demonstrated, with a potential reduction of U-POPs emission in the order of 20gTeq/year

This outcome is the result of implementation of non-combustion HCW treatment equipment (very likely shredding and steam autoclaving) in a limited number of HCFs (from 3 to 4), and if technically and economically feasible, of the upgrading of one incinerator to SC BAT standards in one HCF.

- Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste in the order of 630t/yr.This output will encompass the following activitgies: non-combustion equipment (shredders and steam autoclave) installed and tested in at least 4 HCFs (or 3 HCFs plus the upgrading of a double chamber incinerator to the SC BAT standard). Procurement of an initial set of HCWM related supplies for all the project HCFs. Staff trained in the operation and maintenance of the technologies installed at the HCFs. HCFs supported in the implementation of their plans (including recycling activities) as well as monitoring practices. Agreements between CTFs and PFs drafted and signed for each PFs served by a CTF.

- Output 3.2.2 Waste disposal activities of hospital facilities/programs are documented and their performance is evaluated to exemplify best practices in health-care waste management. The release of at least 19gTEq / yr of PCDD/Fprevented thank to the installation of BAT disposal technologies. Proof of performance test for at least three non-com disposal facility and at least one upgraded incinerator carried out.

- Output 3.2.3 Useful replication toolkits on how to implement best practices and techniques are developed. A practical toolkit for the replication of CTFs or single-facility BAT/BEP in other counties drafted and endorsed by the government. The toolkit will be properly disseminated to relevant stakeholders.

Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste. (GEF grant: 1,000,000 USD. Co-Financing: 5,300,000 USD)

Outcome 4.1. Awareness raising and capacity strengthening on ESM management of solid waste ensured.

Starting from pilot areas, the project will strive to enhance the awareness on the management of municipal waste, both for the general population, the communities operating on waste recycling, and the local environmental authorities. Increasing awareness of the environmental, social and economical benefits of a better management of municipal waste, based on the 3R (Reduce, Reuse, Recycle) is a key aspect to ensure project success. Particularly on the side of communities operating on waste recycling is important to communicate that the project could lead not only to the reduction of risk for the health, but also in the creation of more profitable business and new jobs. Therefore the careful design of communication of the project activities is key for the start of this project component. Communication will have necessarily to start from listening and learning: preparatory meeting with the communities and the local authorities is a fundamental step for the design of awareness raising activities.

- Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs (R3) of waste. Awareness raising material (printed or broadcasted) on 3R of materials which, if wasted, can generate U-POPs and toxic substances, developed, published and communicated for the 3 municipalities of Mombasa, Kisumu and Nakuru. At least 3 awareness raising workshops on 3R dedicated to the representatives of environmental authorities performed. At least 3 awareness raising event for the public at large in the 3 regions of Mombasa, Nakuru and Kisumu carried out.
- Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central level improved to integrate SC requirements. Waste management regulation and its enforcement improved to facilitate the reduce, recycle and recovery approach with special reference to waste which may generate toxic substance when dumped. Special legal and economical provisions facilitating communities to perform upstream collection of recyclable waste and prevent unsafe dumping will be drafted and endorsed at the proper level.
- Output 4.1.3. Counties provided with training, manual, and on sitetechnical assistance for the management of solid wastes. At least 6 field training initiatives for communities and 3 training-for-trainer initiatives for municipalities in Mombasa, Kisumu and Nakuru, aimed at enhancing 3Rs of specific waste stream waste on the basis of the 3R approach (Reduce, Reuse, Recycle) performed. At least 50 people trained for each training initiative.

Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, with a reduction of unintentionally produced POPs from the burning of solid waste of 24 g I-TEQ/year (10 % of the current estimate of 247 g I-TEQ/year), to be

confirmedEmergency plan to reduce exposure of population to harmful substances implemented.

- Output 4.2.1 Communities selected for demonstrating plans and actions for the reduction of solid waste openburning by increasing 3Rsof waste. At least one community for each site (Nairobu, Nakuru and Kisumu) is engaged and supported for conducting project activities. Selected communities and their representatives identified and officially recognized under the project. Memorandum of understanding and community driven projects on 3r with resources, list of activities, timeframe and quality check modalities. are agreed and signed by government and community representatives.
- Output 4.2.2. Initiatives for reducing, reuse and recycle of waste and for composting, collection of compostable municipal waste for communities in three counties of Kisumu, Mombasa and Nakuru implemented with a PPP approach and supervised with the support of NGOs. At least one initiative aimed at collecting and recycling organic or compostable waste which, if burned, would generate U-POPs is identified, designed and implemented for each of the three sites. At least 500 tons / monthsof compostable material successfully collected from the source(not on the dumpsites) and re-used or re-cycled (waste to energy being not considered as suitable recycling activity) documented by a proper waste accounting system in place. The recycling activity is organized at industrial scale with the support of national industrial partners which will ensure the access to the market of the recycled materials. Industrial partners will cooperate with testing and qualification of the recycled material and will provide feedback on the quality of the segregation and collection scheme adopted, to increase quality of the material. The release of at least2gTEq/yr of PCDD/F avoided by means of activities implemented under this output aimed at preventing recyclable waste to be burnt in the dumpsite.
- Output 4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics). At least one initiative aimed at collecting and recycling plastic waste which, if burned, would generate U-POPs is identified, designed and implemented for each of the three sites. At least 30 tons / monthof plastic and at material successfully collected from the source(not on the dumpsites) and re-used or re-cycled documented by a proper waste accounting system in place. Aspecific activity will be implemented for the reduce, re-use and recycle of plastic bags (LDPE) which are usually not easily recovered and which are a significant source of U-POPs and other environmental nuisance. Domestic industrial stakeholders involved for facilitating the placing on the national market of recovered plastic at industrial scale, and provide feedback on the quality of the segregation and collection scheme adopted, to increase the quality of the recovered material. The release of at least1gTEq/yr of PCDD/F avoided by means of activities implemented under this output aimed at preventing recyclable waste to be burnt in the dumpsite.

Outcome 4.3 Municipal waste disposal sites with adequate management practices (non-burn).

- Output 4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues and cleanup plans for at least 3 landfills drafted.Dumpsites in the main Kenyan cities prioritised for intervention and emergency countermeasures based on health risk assessment, ecosystem risk

assessment and socio-economic and criteria, taking into account the lessons learned and the reasons why previous emergency or cleanup plans resulted not implementable. Emergency plans for three priority dumpsites, aimed at reducing release of U-POPs and other toxic chemicals, and at reducing exposure to POPs of the population, drafted. At least one remediation plan for a priority dumpsite, based on the economy of waste recycling, drafted with the involvement of dumpsite communities.

- Output 4.3.2. Emergency measures for reducing release of U-POPs in the environment and the exposure of the population implemented in one high priority site. The exposure of at least 5000 people to chemicals released from dumpsites is halved, thanks to the adoption of emergency measures. The release of at least20gTEq/yr of PCDD/F avoided by means of emergency measures directly aimed at preventing open burning of waste.
- **Component 5: Monitoring, learning, adaptive feedback, outreach and evaluation. (GEF Grant: 150,000)**

Project Indicators, Risks and Assumptions

A number of indicators have been identified (see table 15) to estimate the expected Global Environmental Benefit, in term of POPs reduction, which will be achieved by the project.

Indicators relative to each project output are provided in the Strategic Results Framework (SRF) table in Section II, Part II.

In the table below, an estimation of the expected release reduction of U-POPs from project implementation is reported.

Table 10: **Main project indicators for components 3 and 4.**

Sector	Baseline gTEq	Target at the end of the project gTEq	Further potential release reduction from replication (4 years)	Comments / Assumptions
HCW in the project facilities (estimated on 9 facilities visited at PPG)	15 for the facilities visited, 20 extrapolated to all the facilities.	1	100	Assumption: extension to additional 60 facilities
U-POPs from HCW country wide (as from NIP)	837.1			
Municipal waste - 3R for organic materials	2	0	8	Assumption: demonstration of 500 t/month recycling of organic waste. Potential for replication: doubling the capacity in 4 year
U-POPs from open burning of organic waste countrywide (as from NIP)	148.2			Organic material representing around 60% of the dumped material.
Municipal waste - 3R for PET and LPDE plastics	1	0	4	Assumption:Collection of around 30t/month of plastic upstream will be demonstrated. Potential for replication: 4 time the demonstrated capacity in 4 years
Open burning of plastic waste countrywyde (as from NIP)	30			Plastic representing around 12% of the dumped material
Municipal waste - prevention of open burning at one dumpsites		20	80	Assumption: fire reduction of at least 50% in a large landfill. Potential for replication: 4 time the demonstrated capacity in 4 years
Overall PCDD/F release reduction		38	192	

In summary is expected that the project allow for the reduction of at least 42gTEq year, as follows:

4. Health-Care Waste Management: UPOPs emissions will be reduced byat least19gTEq/yr.
5. Through replication and adoption of BEP and BAT for Health-Care Waste Management across the countryit is expected that an additional 100 g-TEQ/yr UPOPs (PCDD/PCDF) reduction may be achieved.
6. Assuming that in the course of the project at least 6000 tons per year of compostable waste, plus 360 tons per year of PET and LPDE plastic will be collected and recycled, at least further 3g/TEq year of PCDD/F release reduction can be achieved. As this is expected to lead to a profitable business, the doubling of the capacity is the minimum amount expected as replication target.
7. The implementation of emergency plan and fire prevention at one large landfill will allow for the reduction of at least 20gTEq of PCDD/F release.

Sustainability

The project will ensure sustainability of actions through 5main pillars:

1) Regulations: sustainability of any activity addressed to implement the Stockholm Convention is first ensured by a clear, consistent and well enforced regulation. Only in the presence of a soundly enforced regulation, the addressees of that regulation will be motivated to take the necessary actions to be in compliance.
2) By amending the necessary regulation in an integrated and consistent way (with specific reference to the necessary upgrading of the regulation on Health Care Waste, hazardous waste, hazardous waste manifest, licensing system for waste processors and collectors, introduction of the Stockholm Convention requirements) the project will ensure the sustainability of POPs reduction throughout all the activities related to the management of municipal and healthcare waste.
3) On the municipal waste side, the other “pillar” for sustainability is the need to establish a profitable business on waste recycling. Indeed, waste recycling is already a very profitable business in many countries and in Kenya it seems that the main strategy need to be soundly founded on the increase of recovered waste (by collecting waste at the source and not on the dumpsites) and on the support from the local industry interested in the use of recyclable materials.
4) The project will also ensure sustainability through awareness raising. Only when the stakeholders (not only project beneficiaries and partners, but also the general public and the consumer) are aware of the benefit brought by a more safe waste management and the elimination of POPs substances, there would be enough pressure on the authorities to ensure enforcement of the legislation. This principle will be applied to both the HCWM component and the municipal waste component.
5) Training will be another essential part of the sustainability policy of the project. The training modules will be designed to be easily upgradable after project closure. A two-level training approach (training for trainers, and beneficiary training) will ensure the success of training activities. Training in both the sectors of HCW and municipal will benefit from a substantial amount of “on field” training.

Replicability

On the side of HCWM, the project will be largely based on practices and technologies, which have been proved successful in many other countries and projects, including African and Arab countries (see for instance the experience derived from the UNDP Global Healthcare Waste Project recently concluded). These procedures and practices has been officially adopted and standardized by WHO in its "bluebook" (Safe management of wastes from health care activities, Second edition). Technologies, including non-combustion treatment and safe incineration, are largely commercially technology, which are available and replicated worldwide.

The replicability is high also for the municipal waste sector. The "circular economy", with specific reference to plastic and organic waste recycling, is a common concept worldwide and successful and profitable initiatives are common. As the main hindrance of this type of activity in the country were concern from the dumpsite communities of losing their source of income, and availability of access to the market of the recyclable material, the project will focus on the social and market approach to ensure the success of project activity and its replication.

Global Environmental Benefits

As explained above, the project will ensure concrete reduction of U-POPS and POPs release in the following ways.

8. At project implementation:
    - Health-Care Waste Management: UPOPs emissions will be reduced by at least 19gTEq/yr.
    - At least 3gTEq/yr of PCDD/F release reduction may derive from municipal waste recycling activities.
    - The implementation of emergency plan and fire prevention at one large landfill will allow for the reduction of at least 20gTEq of PCDD/F release.
9. At project replication:
    - Through replication and adoption of BEP and BAT for Health-Care Waste Management across the country it is expected that an additional 100 g-TEQ/yr UPOPs (PCDD/PCDF) reduction may be achieved.
    - Through replication of recycling activities, it is expected that a further reduction of 10gTEq/yr of PCDD/F release can be achieved.
    - Through enhancement of measures aimed at preventing fires at landfills, an additional amount of around 80gTEq/yr of PCDD/F release can be achieved.

- **PROJECT RESULTS FRAMEWORK:**

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:
Country Programme Outcome Indicators:
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one):
Applicable GEF Strategic Objective and Program: Objective 1:
Applicable GEF Expected Outcomes:
Applicable GEF Outcome Indicators:.

	Indicator	**Baseline**	**Targets End of Project**	**Source of verification**	**Risks and Assumptions**
Project Objective: Streamling chemicals management intoio development activities, strateigies and policies of key institutions involved in chemicals management Reduction of the release of U-POPs and other substances of concern and the related health risk through the implementation of ESM management of municipal waste and healthcare waste and of an integrated institutional and regulatory framework covering management and reporting of POPs.	Existence of a SC compliant institutional and regulatory framework covering management and reporting of POPs. Amount of U-POPs release in the environment from HCW disposal avoided. Amount of U-POPs release in the environment from municipal waste disposal avoided.	Chemicals have received heightened attention in Kenya. Kenya is an active participant in SAICM being current president of ICCM4, a Party to Rotterdam, Basel, Stockholm Conventions and signatory to the Minamanta Convention on Mercury. Despite having good policies, strategies, guidelines and legislation on solid waste, the country continues to dump most of its waste in sites that require eventual open	Guidelines for relevant institutions on how to streamline chemicals management into their policies, strategies and action plans Updated pieces of relevant legislation Rerview of the HCW Selecteion of health care facilities that can be used to demostratrate environmentally sound management of HCW At least 50% of HCW is dieposed in ESM 30% of Munici[pal waste recycled through recycle, reuse and recovery methods	Guidelines in place Economic instruments in manufacture, use, import, export of chemicals in use reflecting the hazards that specific chemicals pose NEMA audit reports for the participating facilities Interim Review of the HCF on how much has been disposed through 3R, non burn technologies incineration Report on UPOPs emission Reduction Reports from participating NGO and CBOs	Assumptions the MEWNR and MOH continue to have joint plans. MEWNR lieases properly with the National Treasury and the Ministry of Planning to highlight importance of chemicals in national development MOH prioritises HCW in its strategic plan 2015-2020 The selected CBO and NGO participate effectively in the project The steering committee operates in an effective way RISKS Institutions losing momentum and commitments Difficulties in securing and sustaining co-financing. Difficulties related to procurement and permitting of equipment.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		burning. Hazardous Medical waste			
COMPONENT 1. STREAMLINING SOUND MANAGEMENT OF CHEMICALS AND WASTE INTO NATIONAL AND COUNTY DEVELOPMENT ACTIVITIES THROUGH CAPACITY BUILDING OF MEMWNR, MOH, COUNTY GOVERNMENTS OF NAIROBI, KISUMU, NAKURU AND MOMBASA AND THE NGOS					
Outcome 1.1 Policies, strategies Regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities and specifically those of the Stockholm convention and the SAICM recommendations, adopted and institutional capacity on U-POPs and waste management enhanced.					
1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented.	Availability of a completed and comprehensive gap analysis. Availability of a nationally endorsed roadmap for improving the existing regulation. Number of new or reviewed regulatory acts to take into account in a consistent manner the current provisions of the SC convention on POPs, with respect to the overall number of relevant regulatory norms to be reviewed identified in the gap analysis	A preliminary analysis of the Kenyan policy and legal framework on chemicals affected by the SC and their relationship has been carried out under the SAICM activities.. Most of the existing regulation need to be amended for ensuring compliance with the Stockholm Convention, Rotterdam Convention the Basel Convention and the Minamata Convention on Mercury and other related MEAs[12] ratified by the country. The exiting legislation is not adequately providing an integrated and consistent framework for the management of waste, chemicals	Gap analysis completed within 12 months from project starting. A policy and legislation review roadmap approved within 24 months from project starting. The identified polices and legislation regulation/s or their associated norms are amended for compliance with the SC requirements	Intermediate and final review reports of gap analysis Minutes of meetings, consultation workshops reports, etc. Formal acts related to the submission/ approval of new or amended norms.	**Assumptions** Although is recognized that the improvement of regulation is not sufficient, nevertheless is assumed that a better and sustainable regulatory system is the first step toward a sound management of POPs The GoK is committed in ensuring compliance with SC requirements. **Risk: Low** Law making process is relatively straightforward in Kenya thus this activity present a low risk rating. The subsequent steps (enforcement and implementation) is much more complex.

[12] Those closely related to chemicals such as the Vienna Convention, Montreal Protocol and its amendments, UN Framework convention on climate Chane and health regulations

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		and chemical pollution in the Country in line with Kenyas international obligations as party ans signatory to the said MEAS			
1.1.2: Key institutions [13]have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations to international agreements	Availability of capacity building need assessment report. Existence of a Training Institution on Chemical Management.	Based on the outcome of the Kenya chemical profile 2011 , there is general need in Kenya to provide training programs in chemical information work for the sector or collecting, collating, storage, retrieval and dissemination of risk and hazard of chemicals. In addition, there is the urgent need to review the capacity of institution that implement existing chemical management and environmental regulation.	Capacity building need assessment for central and local institutions in charge of chemical management completed within 12 months from project starting. Training materials tailored to the Kenyan situation, developed on POPs management, POPs monitoring, ,chemical emergency response and 3R of waste. At least 2 Excellence Training Centres on chemical management established at a main Academic institution. At least 200 staff coming from all Kenyancounties and affiliated to governmental institution, chemical industry and waste management companies selected and trained At least 2 training cycles (totally 10 days each) performed during project implementation performed. Effectiveness of training measured by means of pre-training and post-training examination of the participants Trainees who successfully pass post-training examination receive a certificate in Chemical management. . An award for most successful trainees consisting in contracts on Chemical Management at key Kenyan Institution established.	Capacity building need assessment report. Training material (presentations and textbooks) Training plan and curricula of the Chemical Training Center. Training reports Records of trainee examination before and after the training (acceptance tests and post-training tests)	**Assumption.** The GoK is committed in improving the capacity of governmental and industrial staff in the sound management of chemical and waste, by facilitating and supporting a certified training of key personnel. **Risk: Low** If well planned, a good and effective training activity may be successfully implemented. Adoption of advanced training techniques and of a formal training assessment are key for reducing risk of ineffective training.
1.1.3 Key institutions	Number of POPs	The management of	Guidance and procedures for the	Guidance documents for	**Assumptions**

[13]**MEMWNR, MOH, COUNTY GOVERNMENTS OF NAIROBI, KISUMU, NAKURU AND MOMBASA AND THE NGOS(to be selected during project implementation)**

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
have incorporated sound management of chemicals and wastes, including POPs, in their activities.	units at local and central environmental authorities trained and established. Availability of guidance documents on POPs and chemical managements for local and central authorities. Availability of inspection reports.	chemical and waste in Kenya is very low Although a certain number of regulation is in place, their enforcement in specific areas minimal. Existence of Public Health Officers in the selected HCFs	integration of POPs issue in: chemical management, environmental permitting, waste management are developed for the local and central environmental authorities. Units on POPs management are trained and established in key local and central institutions. At least ___ inspection on the fulfilment of POPs regulation in the country performed.	central and local authorities. Training reports. Service contracts for staff of local environmental authorities. Meeting and site visit reports	Willingness to meet obligations to MEAS is strengthened by the current constitution. NEMA and MOH increases their inspection staff **Risks** The trained inspectors are not retained by the respective institutions, especially the counties and NEMA
1.1.4 National coordinating meetings on POPs held regularly (4 times per year). without GEF financial support	Availability of the formal act for the establishment of the NCMCO. Number of coordination meetings held.	Because of lack of a policy requirement, the committee is formed on a need basis. Considering the Terms of Reference for inter-ministerial coordination developed under SAICM, the project will operationalise this coordination	A National Chemical Management Coordination office established at the Ministry of Environment, composed by representatives of relevant governmental Ministries. Coordination Meeting of the National Chemical Management Coordination Office	Regulation establishing the National Chemical Management Coordination office. Meeting reports of the NCMCO.	**Assumptions** The key institutions will dedicate at least one officer to the work of the committee **Risks** The institutions will continue to suffer serious institutional capacity challenges
Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.					
1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis	Availability of a national plan for monitoring of POPs which establishes a market-based mechanism.	Based on the Kenya National Profile, most laboratories lack sufficient equipments for proper analysis. There are few laboratories which are equipped with analytical instrument for analyzing POPs. The most serious issue is however the fact that the laboratories work mainly with	Capacity building and equipment upgrading needs identified. National plan for environmental and industrial monitoring, which identifies POPs monitoring obligation for key industrial and waste management activities developed and implemented. A financial mechanism for ensuring the sustainability of POPs laboratories based on incentives and environmental taxes established and piloted for at least one year. (UPGRADING OF LABS?)	Capacity building report on POPs analysis. Preliminary and final national plan on POPs monitoring obligation. Reports on the implementation and piloting of a financial mechanism on POPs monitoring. The selected labs are not accredited or in the process of accreditation.	**Assumptions.** Theanalytical laboratories(GCD/WARMA) are interested in expanding their capability to POPs **Risks.** Lack of expertise in the institutions National plans are not implemented

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		discontinuous project funds therefore their operation is not sustainable.	• Two key laboratories on POPs analysis accredited following ISO 17025 and associated accreditation schemes • Up to 80 laboratories technicians and government staff trained on POPs monitoring related activities following international standards and requirement	Number of lab technicians tained and are regularly analysing POPs	
1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in curriculum	Number of universities including curricula on chemical risk assessment and management of hazardous chemicals and hazardous waste.	Undergraduate and postgraduate programmes in various areas of chemicals management are offered at various universities which include both public and private universities. However a coordinated approach towards addressing matters pertaining to chemicals management is missing.	▪ University curricula for chemical risk assessment and management of hazardous chemical and hazardous waste adopted by at least ___ training institution. ▪ One cycle of curricula completed in at least 2 universities within project timeframe.	Reviced curricular Number of universities with training and reporting change of curricular Draft administrative policies, strategies , standards included regulated toxic compounds	**Assumptions** Universities are ready and interested to include POPs issues in their curricular. **Risks** Lack of willingness and capacity to revise curricular. Lack of dedicated personnel
1.2.3. PRTR Database and reporting system in place.	Regulatory tool for the implementation and enforcement of POPs / PTS reporting and PRTR established.	.	By the end of the project, a circular drafted and submitted to Gok for approval related to implementation and enforcement of POPs monitoring and PRTR system to ensure sustainability of the PRTR related Demonstration of an Information Management System to support PRTR A POPs/PTS database established to contain data related to industrial sources, and POPs contaminated sites in 2 Kenyan provinces, and all the country-wide available data on POPs environmental monitoring..	Draft and final PRTR regulation PRTR preliminary reports.	**Assumptions** The institutions are aware and interested in establishing a PRTR system to improve the control of emission sources. **Risks** Funds will not be allocated to run PRTR Lobbies opposing the establishment of PRTR
COMPONENT 2. INTRODUCE ENVIRONMENTALLY SOUND MANAGENENT OF HEALTH CARE WASTE IN SELECTED HEALTHCARE FACILITIES; POLICY AND					

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
STRATEGIC PLANS TO PREPARE THEM TO ADOPT BAT AND BEP DISPOSAL.					
Outcome 2.1 Personnel of hospital facilities and control authorities at central and county level have enough capacity guidance and equipment to manage healthcare waste in an Environmental Sound Manner					
2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities built on lessons and examples from the application of the I-RAT tool under GEF4 /UNDP projects worldwide and on the WHO bluebook "Safe Management of Wastes from Health-care Activities" developed and adopted	Evidence that the guidelines for the Environmentally Sound Management of HCW, including rapid assessment based on the I-RAT tool, have been developed and officially adopted.	The "National Guidelines for the Safe management of HCW" are not currently implemented in the pre-selected HCFs, does not contain any indication on the assessment of HCWM effectiveness, and are not fully compliant with the chemical MEAS especially the SC.	▪ Revision/development of HCWM guidelines based on the last edition of the WHO bluebook (tailored to various facility types) which include tool and procedures for rapid assessment of HCWM ▪ The above guidelines are officially adopted by all the pre-selected HCFs.	Draft of revised HCWM guidelines Meeting minutes Draft regulations Acts of official adoption of the reviewed HCW guidelines by the MOH administration and the project HCFs-	**Assumptions** Project HCFs have the willingness and need to adopt an official guidance on best HCWM practices. **Risks** The guidance is formally adopted but not fully enforced.
2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the MOH.	Availability of the healthcare waste management handbook and documentary evidence that it has been officially adopted. Updated and reviewed Waste Regulations 2006	The "National Guidelines for Safe Management of Healthcare waste" need to be updated to be compliant with best HCWM practices. Based on the preliminary survey of project HCFs, even the existing guidelines are not beingimplemented.	▪ Revision/development of emission and dischargestandards on monitoring HCWM practices. ▪ Development of technical regulations for HCWM equipment and supplies. ▪ Development of standards on technologies for the processing and final disposal of HCW..	▪ Draft, revised or adopted of the national healthcare waste handbook. ▪ Workshop and meeting minutes concerning the development and approval of the handbook.. .	**Assumptions** The government of Kenya and specifically the MOH are available in updating and disseminating guidelines on HCWM compliant with the SC. **Risks:** Lack of agreement on specific issues (for instance, technical specification for incineration) **Low**
Outcome 2.2 Implementation of BAT/BEP at selected hospital facilities successfully demonstrated and measured against the baseline					
Output 2.2.1 Hospital personnel at all level trained on the implementation of the above procedures	Number of staff from the project HCFs trained.	Very limited training has been carried out in a limited number of the preselected HCFs.	▪ All the staff of the HCF will receive training on HCWM. ▪ At least _200__ staff from the project HCFs trained	Training reports. Certificate of attendance. Outcome of post-training tests	**Assumptions:** All the project HCFs are willing to have their staff trained on BAT/BEP of healthcare waste. **Risks:** Due to the shortage of staff or frequent turnover in hospital staff, not all the staff can participate in the training.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented	Baseline assessments conducted for all project facilities	None of the preselected HCFs underwent a baseline assessment	▪ I-RATs conducted for each of the HCFs participating/ benefitting from the project. ▪ UPOPs releases before implementation of BAT/BEP determined for each project facility.	Baseline reports (incl. I-RAT reports and UPOPs release assessments).	**Assumptions**: All project HCFs are willing to participate in baseline assessments and are open to sharing information related to their current HCWM practices. **Risks:** Baseline assessment incomplete / carried out in a unsatisfactory way. **Low**
Output 2.2.3 ESM management of healthcare waste (based on WHO bluebook) implemented in 4facilities in each county (12 facilities)	All the project HCF have introduced BEP in a satisfactory manner.	The preliminary surveys conducted during PPG stage indicated that all the HCF need a substantial improvement concerning the segregation, collection, transport, storage, and disposal of HCW.	▪ Memoranda of Understanding (MoUs) signed with all project HCFs. ▪ HCWM committees of all HCFs strengthened or established were missing. ▪ HCWM policies, procedures and plans developed and implemented at each project HCF. ▪ HCFs supported in minimizing waste streams, improving segregation and introducing recycling activities. ▪ Each HCFs evaluated to verify introduction of BEP practices. .	▪ MOUs ▪ HCWM plans of project HCFs ▪ Assessment report after HCWM plan inplementation.	**Assumptions**: HCFs are willing to sign MOUs and the MOU signature process doesn't slow down the launch of HCF HCWM activities. The implementation of best HCWM practices is sustained for the whole duration of the project and beyond. **Risk:** Consultant in charge of implementing environmentally sound practice in the hospital leaving in advance
Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM management against baseline is carried out and estimate amount of U-POP release avoided.	Availability of final assessment report based on the HCWM guidance.	Although figures from preliminary assessment of some HCFs have been reported in the National HCW management plan, no measurement of the effectiveness of implementation of BET/BAP has ever been attempted in any HCF in Kenya.	▪ Final assessment conducted for each of the HCFs participating/ benefitting from the project with the assistance of properly trained project consultants. ▪ UPOPs after implementation of best practices in HCWM determined for each project facility.	▪ Final assessment reports. ▪ UPOPs estimation reports.	**Assumptions** Project healthcare facilities sustain the best HCWM practices in compliance with the guidance developed by the project and established a reliable monitoring procedure. **Risks:** Previous project demonstrated the key role of project consultant in sustaining best HCWM practices in HCFs.
COMPONENT 3.DEMONSTRATION OF SOUND HEALTHCARE WASTE DISPOSAL TECHNOLOGIES IN A SELECTED NUMBER OF HEALTHCARE FACILITIES IN EACH COUNTY					
Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed					
Output 3.1.1 Feasibility study and term of	Availability of feasibility study.	The existing "National Guidelines	▪ Cost-effectiveness and feasibility analysis of centralized treatment	Meeting minutes Feasibility analysis report	**Assumptions** The government of Kenya and more

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted.	Availability of cost-effectiveness analysis.	for Safe management of health care waste " and the "National Health Care Waste Management Plan for Kenya 2008-2012" does not contain any indication on the compliance of the technology with the SC, and still mention the Montfort incinerator as a viable option for the disposal of HCW	facilities in comparison with the current situation (one small treatment facility for each HCF) carried out. ▪ Technical specifications for HCW treatment technologies drafted and approved. ▪ Technical specification for ACPS and for the upgrading of recent double chamber incinerators to be compliant with the SC drafted and approved.	Technical specification and term of reference for non combustion disposal equipment.	specifically the Ministries in charge of HCWM recognize the need for better specification for HCW treatment. Technologies for the disposal of HCW that suit the specific Kenyan situation may be identified. **Risks:** Feasibility studies and TOR not suitable for the specific Kenyan situation.
Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully established and demonstrated, with a potential reduction of U-POPs emission in the order of 20gTeq/year					
Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste in the order of 630t/yr	Number of non-incineration technologies that are operational. Number of incinerators reviewed to the SC BAT/BEP requirements and operational. Amount of U-POPs release prevented by means of implementation of better disposal practices.	Currently in none of the HCFs pre-selected facilities a non combustion technology for the treatment of HCW is operational. Currently none of the incinerators installed at pre-selected HCFs fulfil SC BAT criteria; in some case even the most elementary APCSs are missing. The current emission of PCDD/F of the pre-selected facilities amount to an estimated _____gTEq. Currently in Kenya there are no Centralized Treatment Facilities-each HCFs has its own treatment plant.	▪ Non-incineration technologies procured, installed and tested in at least ____ HCFs. ▪ APCS ▪ Procurement of an initial set of HCWM related suppliesfor the at least ____ HCFs. ▪ Staff trained in the operation and maintenance of the technologies installed at the HCFs ▪ HCFs supported in the implementation of their plans (including recycling activities) as well as monitoring practices. ▪ Agreements between CTFs and PFs drafted and signed for each PFs served by a CTF.	▪ Photos of procured non-incineration equipment and of the revamped incinerators. ▪ Certificates of training completion and attendance sheets of training sessions. ▪ HCF visit reports ▪ Photos of recycling practices.	**Assumptions** Thanks to UNDP experience in the field, procurement of non-incineration technologies and procurement of HCWM supplies doesn't run into major challenges. There is at least one incinerator among the existing incinerators in the pre-selected facilities which may be successfully revamped to fulfil SC requirements. A proper HCWM upstream will sustain the establishment of non-combustion technologies. **Risks**. Although some of the existing incinerators are very new and provided with a secondary combustion chamber, their limited size may still prevent their upgrading with sophisticated ACPM. Procurement of equipment may present uncertainties which are not completely under the controlof the project stakeholders.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Output 3.2.2 Waste disposal activities of hospital facilities/programs are documented and their performance is evaluated to exemplify best practices in health-care waste management.	Proof of Performance test reports available Proof of performance test at least three non-com disposal facility and at least one revamped incinerator available. HCW hazardous waste manifests available for at least 630 t of HCW yearly.	Due to the lacking of monitoring equipment, measurement of PCDD/F at the stack of incinerators was never measured in Kenya. Experience on the conduction of Proof of Performance test for both combustion and non-combustion technologies is missing in the country.	The release of at least xxx gTEq / yr of PCDD/F prevented thank to the installation of BAT disposal technologies. Proof of performance test for at least three non-com disposal facility and at least one revamped incinerator carried out.	▪ Certificate of analysis of PCDD/F at the stack of incinerator facilities before and after their upgrading. ▪ Hazardous waste manifests for the HCW processed by means of non-combustion equipment or by revamped incinerators. ▪ Monitoring and progress reports	**Assumptions.** At least one pre-selected project facility is keen to have the incinerator revamped to BAT/BEP and sustain it after project end. At least three pre-selected project facilities are keen to shift from incineration to steam autoclave for the disposal of HCW and to sustain the technology after project end. **Risks** Difficulties / delay in procurement, installing, testing, the equipment. Lack of the required infrastructures or utilities to run the equipment smoothly. Delay in permitting of the new equipment.
Output 3.2.3 Useful replication toolkits on how to implement best practices and techniques are developed	Toolkit for replication of best practices made available.	The existing national guidelines and plans does not include any toolkit for the implementation of SC compliant disposal technologies.	A practical toolkit for the replication of CTFs or single-facility BAT/BEP in othercountiesis drafted and endorsed by the government. The toolkit will be properly disseminated to relevant stakeholders.	Final and draft toolkit Meeting and workshop minutes. Official toolkit endorsement document	**Assumptions** The dissemination of a practical toolkit on HCW disposal technologies to relevant stakeholders will facilitate the implementation of BAT disposal technologies **Risks** Toolkit not adequately disseminated / understood by the target institutions.
COMPONENT 4.MINIMIZING RELEASES OF UNINTENTIONALLY PRODUCED POPS FROM OPEN BURNING OF WASTE.					
Outcome 4.1. Awareness raising and capacity strengthening on ESM management of solid waste ensured.					
Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs (R3) of waste	Level of awareness on R3 of different stakeholders as from interview and questionnaire significantly raised.	Awareness of the environmental impacts of improper management of municipal waste practices is generally limited. In addition, there is limited public awareness of the	Awareness raising material (printed or broadcasted) on 3R of materials which, if wasted, can generate U-POPs and toxic substances, developed and published for the 3 municipalities of Mombasa, Kisumu and Nakuru. At least 3 awareness raising workshop on 3R dedicated to the representatives of environmental	Awareness raising material. Awareness raising workshop minutes	**Assumptions** The most effective way to prevent open burning of plastics and other PCDD/F generating waste is to raise awareness on the benefit of recycling. **Risks.** Difficulties in the collection of sufficient amount of plastic. Difficulties in the promotion of upstream waste

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		regulatory and institutional framework regarding POPs and hazardous chemicals in general.	authorities performed. At least 3 awareness raising event for the public at large in the 3 regions of Mombasa, Nakuru and Kisumu carried out.		segregation.
Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central level improved to integrate SC requirements	Availability of improved regulatory framework which includes rules for reduce, recycle and reuse and preventing U-POPs emissions through cessation of OB Waste guidelines include SC provisions Prioritisation of plastic waste	The Waste Management Regulations, 2006 establishes rules for the management of municipal waste, including provisions for licensing of collection, transportation, and running landfills; the regulation. However the enforcement of this regulation is low	Waste management regulation and its enforcement improved to facilitate the reduce, recycle and recovery approach with special reference to waste which may generate toxic substance when dumped. Special provisions facilitating communities to perform upstream collection of recyclable waste and prevent unsafe dumping.	Gap Analysis of existing municipal waste regulation in Kenya Final and preliminary draft of improved regulation or of measures for its better enforcement	**Assumptions** Although not sufficient, proper waste regulation and enforcement rules are necessary conditions for ensuring a the safe management of waste **Risks. Medium** Although necessary, proper waste regulation and enforcement rules are not sufficient for ensuring the safe management of waste
Output 4.1.3. Counties provided with training, manual, and technical assistance for the management of solid wastes.	Availability of training manuals tailored for counties. Number of staff from counties who received technical assistance	Inadequate training on 3R of specific municipal waste streams r carried out for municipality and local authorities in charge of municipal waste management. (Check)	At least 6 field training initiatives for communities and 3 training-for-trainer initiatives for municipalities in Mombasa, Kisumu and Nakuru, aimed at enhancing 3Rs of specific waste stream waste on the basis of the 3R approach (Reduce, Reuse, Recycle) performed. At least 50 people trained for each training initiative.	Training reports Training materials Attendance sheets	**Assumptions** The most effective way to prevent open burning of plastics and other PCDD/F generating waste is to train local communities to carry out up-stream recycling of waste. **Risk.** Communities not interested / not committed in undertaking upstream segregation of plastic. **.**
Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, with a reduction of unintentionally produced POPs from the burning of solid waste of 80 g I-TEQ/year (20 % of the current estimate of 400 g I-TEQ/year), to be confirmed .Emergency plan to reduce exposure of population to harmful substances implemented.					

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Output 4.2.1 Communities selected for demonstrating plans and actions for the reduction of solid waste openburning by increasing 3Rsof waste.	Number of communities who are engaged in recycling of waste under the project..	In Kenya there are a number of CBOs (Community Based Organization) who are already operative in the field of waste recycling, however the limit of these activities is that most of the waste is recycled only after being dumped in landfills, therefore the quality is very low.	At least one community for each site (Nairobu, Nakuru and Kisumu) is engaged and supported for conducting project activities. Selected communities and their representatives identified and officially recognized under the project. Memorandum of understanding and community driven projects on 3r with resources, list of activities and timeframe are agreed and signed by government and community representatives.	Meeting minutes. Preliminary and final list of selected communities. Memorandum of understanding signed by the selected communities. Community projects on 3 r signed by local or central GoK representatives and the communities.	**Assumptions** Although communities are mostly informal entities, it will be possible to identify communities and their representative and to establish a mechanism to coordinate and monitor their activity. **Risks** Difficulties related to the low level of coordination and planning in community may hinder community based project if a continuous coordination with the project is not ensured.
Output 4.2.2. Initiatives for reducing, reuse and recycle of waste and for composting, collection of compostable municipal waste for communities in three counties of Nairobi, Mombasa and Nakuru implemented with a PPP approach and supervised with the support of NGOs.	Number of initiatives identified, properly designed and implemented on 3R. Waste accounting system in place. Amount of organic compostable waste collected at the source (not at the landfill) and processed for recycling. Amount of U-POPs release prevented due to recycling activities and open burning avoidance.	Currently, although a certain number of initiative on waste recycling are being carried out by communities operating directly at the dumpsites, the recycling of compostable waste occurred mainly by processing paper or wood in brickettes for replacing coal in domestic stoves. These initiatives, related are in general not SC compliant and may imply exposure of people to U-POPs. Non-recyclable are open burnt by the communities who operates at landfill.	At least one initiative aimed at collecting and recycling organic or compostable waste which, if burned, would generate U-POPs is identified, designed and implemented for each of the three sites. At least ____tons of compostable material successfully collected from the source(not on the dumpsites) and re-used or re-cycled (waste to energy being not considered as suitable recycling activity) documented by a proper waste accounting system in place. The recycling activity is organized at industrial scale with the support of industrial partner.	Preliminary and final text of collection and recycling projects agreed. Reports generated by the waste accounting system (by means of simplified waste manifest system) Project Monitoring reports, Project site visit minutes and photos. Workshop reports	**Assumptions.** There is a potential market for recyclable organic waste which may sustain an activity of collection and recycling upstream the dumpsite. Local communities authorities may benefit from waste recycling economy both in term of improvement of health condition and creation of new jobs. **Risks:**.< Existing dumpsite communities may obstacle the development of any activity which will prevent waste to enter the dumpsites.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics).	Number of initiatives identified, properly designed and implemented on 3R of plastic waste. Waste accounting system for recycled plastic in place. Amount of plastic or collected at the source (not at the landfill) and processed for recycling. Amount of U-POPs release prevented due to recycling activities and open burning avoidance.	Currently, although a certain number of initiative on waste recycling are being carried out by communities in all the landfills, the recycling occurs mainly by collecting plastic or other material at the dumpsites and by selling it at very low cost to waste traders. The direct selling of artisanal articles made of recovered plastic is very ineffective The issue of recycling of plastic bags is largely unanswered. Non-recyclable plastic are often open burnt by the communities who operates at landfill.	At least one initiative aimed at collecting and recycling plastic waste which, if burned, would generate U-POPs is identified, designed and implemented for each of the three sites. At least ____tons of plastic and at material successfully collected from the source(not on the dumpsites) and re-used or re-cycled documented by a proper waste accounting system in place. Domestic industrial stakeholders involved for facilitating the placing on the market of recovered plastic at industrial scale..	Preliminary and final text of collection and recycling projects agreed. Reports generated by the waste accounting system (by means of simplified waste manifest system) Project Monitoring reports, Project site visit minutes and photos. Workshop reports	**Assumptions.** The potential market for recyclable plastic waste is big enough to sustain an activity of collection and recycling upstream the dumpsite. Local communities authorities may benefit from waste recycling economy both in term of improvement of health condition and creation of new jobs. **Risks: medium**.< Existing dumpsite communities may obstacle the development of any activity which will prevent waste to enter the dumpsites. Previous bilateral project on plastic recycling at dumpsite failed.
4.3 Municipal waste disposal sites with adequate management practices (non-burn).					
4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues and cleanup plans for at least 3 landfills drafted.	Prioritisation of dumpsites in Kenya established. Emergency plans for limiting the release of U-POPs and other toxic chemicals from dumpsite are available for at least 3 dumpsites. Cleanup plans for 1 landfills are available.	A number of cleanup and remediation plans have been drafted in the recent years for the Nairobi dumpsite, however none of these plans have been implemented. Remediation plans need to be designed involving communities living at the dumpsite to increase probability	Dumpsites in the main Kenyan cities prioritised for intervention and emergency countermeasures based on health risk assessment,ecosystem risk assessment and socio-economic and criteria. Emergency plan for three priority dumpsites, aimed at reducing release of U-POPs and other toxic chemicals, and at reducing exposure to POPs of the population, drafted. At least one remediation plan for a priority dumpsite, based on the	List of priority dumpsite agreed with the GoK. Emergency plan for 3 prioroty dumpsites. Cleanup plan	**Assumption** Although none of the previous cleanup plans was implemented, is still useful to study the situation at priority landfill with a wider perspective to integrate lesson learnt draft and propose more feasible cleanupplans . Emergency plan, which objectives are limited to the prevention of U-POPs release and reduction of people exposure, have a greater probability of being implemented. **Risks** Historically, the risk of failure is very

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		of implementation.	economy of waste recycling, drafted with the involvement of dumpsite communities.		high. The risk may be minimized by reducing the scope of remediation plans to prevention of U-POPs release and limitation of people exposure to chemicals.
4.3.2. Emergency measures for reducing release of contaminant in the environment and the exposure of the population implemented in one high priority site.	Number of people who benefit for reduction of exposure to chemicals released by the dumpsite. Amount of the release reduction of U-POPs and other chemicals from implementation of emergency measures.	None of the cleanup plan drafted in the past was implemented. No emergency measure for reduction of U-POPs release from open burning at dumpsites or reduction of people exposure to chemicals released by the dumpsite ever attempted	The exposure of at least 5000 people to chemicals released from dumpsites is halved, thanks to the adoption of emergency measures. The release of at least _____gTEq/yr of PCDD/F avoided by means of emergency measures directly aimed at preventing open burning of waste. The release of at least _____gTEq/yr of PCDD/F avoided by means of activities implemented under output 4.2.3. aimed at preventing recyclable waste to enter dumpsites burning of waste.	Reports from site visits. Surveillance reports conducted at the dumpsites where emergency measures have been put in place. Monitoring reports. Sampling and analysis reports. Interviews with people from local communities.	**Assumptions.** Simple emergency measure (surveillance; fencing; incentives) may be effective in preventing open burning at landfills and at avoiding exposure to U-POPs. **Risks** The effectiveness of any measure to be implemented at dumpsites required a sound approach for involving dumpsite communities and ensuring their support.
Component 5. Project Monitoring and evaluation					
Outcome 5.1. Project monitoring, including PIR, Annual and quarterly workplans, Annual and Quarterly Progress Reports.					
Output 5.1.1 Project steering committee established.	Availability of official acts of project steering committee appointed.	N/A	NSC established		
Output 5.1.2 Progress report drafted and approved	Availability of QPR and APR	N/A	Inception report and progress report as per monitoring plan drafted and approved		
Output 5.1.3 Workplans drafted and approved	Availability of QWP and QWP	N/A	Quarterly and Annual workplan as per monitoring plan drafted and approved		
5.2. Project evaluation and audit					
5.2.1.Mid term evaluation completed.	Availability of completed mid term evaluation report	N/A	Mid term evaluation completed.		
5.2.2 Terminal evaluation completed	Availability of terminal evaluation report	N/A	Terminal evaluation completed		

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
5.2.3 Financial audit completed.	Availability of financial audit reprot	N/A	Financial audit completed		

TOTAL BUDGET AND WORKPLAN

Award ID:			
Award Title:	Country Name Project Title:		
Business Unit:			
Project Title:	Country Name Project Title:		
PIMS no.			
Implementing Partner (Executing Agency)			

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
Output 1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented.				71200	International Consultants	2000	4000				6000	1
				71300	Local Consultants	10000	10000	3000			23000	2
				72100	Contractual services							
					Professional services (Training)							
				71600	Travel	2000	4000				6000	3
				74500	Miscellaneous	1000	1000	1000	1000	1000	5000	4
		62000	**GEF**		**Total Output**	15000	19000	4000	1000	1000	40000	
Output 1.1.2: Key institutions have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound				71200	International Consultants		2000				2000	5
				71300	Local Consultants	4000	5000				9000	6
				72100	Contractual services	4000	4000				8000	7
		62000	**GEF**		Professional services (Training)	5000	5000				10000	8

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
chemicals management principles and obligations to international agreements				71600	Travel	2000	4000				6000	9
				74500	Miscellaneous	1000	1000	1000	1000	1000	5000	10
					Total Output	16000	21000	1000	1000	1000	40000	
Output 1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities				71200	International Consultants	3000	3000				6000	11
				71300	Local Consultants	10000	10000	4000			24000	12
				72100	Contractual services							
					Professional services (Training)							
				71600	Travel							
				74500	Miscellaneous							
		62000	**GEF**		**Total Output**	13000	13000	4000			30000	
Output 1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis				71200	International Consultants		3000		3000		6000	13
				71300	Local Consultants		10000	6000	6000	5000	27000	14
				72100	Contractual services		90000	35000	35000	35000	195000	15
					Professional services (Training)		4000		4000		8000	16
				71600	Travel	1000	3000	1000	3000	1000	9000	17
				74500	Miscellaneous	1000	1000	1000	1000	1000	5000	18
		62000	**GEF**		**Total Output**	2000	111000	43000	52000	42000	250000	
Output 1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in curriculum				71200	International Consultants						0	
				71300	Local Consultants	10000	10000	2000			22000	19
				72100	Contractual services		18000	18000	18000	18000	72000	20
		62000	**GEF**		Professional services (Training)							

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
				71600	Travel		1000	1000	1000	1000	4000	21
				74500	Miscellaneous	500	500	500	500		2000	22
					Total Output	10500	29500	21500	19500	19000	100000	
Output 1.2.3. PRTR Database and reporting system in place				71200	International Consultants		3000				3000	23
				71300	Local Consultants							
				72100	Contractual services			13000			13000	24
					Professional services (Training)		6000	6000	6000		18000	25
				71600	Travel		3000	1000	1000	1000	6000	26
				74500	Miscellaneous							
		62000	**GEF**		**Total Output**	0	12000	20000	7000	1000	40000	
					Total Comp. 1	**56500**	**205500**	**93500**	**80500**	**64000**	**500000**	
Output 2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilitiesdeveloped and adopted				71200	International Consultants		6000				6000	27
				71300	Local Consultants	8000	8500	7000			23500	28
				72100	Contractual services							
					Professional services (workshops)							
				71600	Travel	2000	4000	2000			8000	29
				74500	Miscellaneous	500	500	500	500	500	2500	30
		62000	**GEF**		**Total Output**	10500	19000	9500	500	500	40000	
Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the				71200	International Consultants	4500	4500				9000	31
				71300	Local Consultants	9000	10000	3000			22000	32
		62000	**GEF**	72100	Contractual services		4000		4000		8000	33

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
MOH					Professional services (workshops)							
				71600	Travel	2000	4000				6000	34
				74500	Miscellaneous	1000	1000	1000	1000	1000	5000	35
					Total Output	16500	23500	4000	5000	1000	50000	
Output 2.2.1 Hospital personnel at all level trained on the implementation of the above procedures				71200	International Consultants	3000		3000			6000	36
				71300	Local Consultants	16000	32000	32000	32000	16000	128000	37
				72100	Contractual services							
					Professional services (workshops)							
				71600	Travel	3000	1000	3000	1000	1000	9000	38
				74500	Miscellaneous	1000	1000	1000	1000	1000	5000	39
		62000	**GEF**		**Total Output**	23000	34000	39000	34000	18000	148000	
Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented				71200	International Consultants	6000					6000	40
				71300	Local Consultants	16000					16000	41
				72100	Contractual services	4000					4000	42
					Professional services (workshops)							
				71600	Travel	6000					6000	43
				74500	Miscellaneous							
		62000	**GEF**		**Total Output**	32000					32000	
Output 2.2.3 ESM management of healthcare waste (based on WHO				71200	International Consultants							
		62000	**GEF**	71300	Local Consultants							

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
bluebook) implemented in 4facilities in each county (12 facilities)				72100	Contractual services	120000	120000	120000	120000	120000	600000	44
					Professional services (workshops)							
				71600	Travel							
				74500	Miscellaneous							
					Total Output	120000	120000	120000	120000	120000	600000	
Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM management against baseline is carried out and estimate amount of U-POP release avoided				71200	International Consultants	6000					6000	45
				71300	Local Consultants	16000					16000	46
				72100	Contractual services	4000					4000	48
					Professional services (workshops)							
				71600	Travel	4000					4000	49
				74500	Miscellaneous							
		62000	**GEF**		**Total Output**	30000					30000	
					Total Comp. 2	**232000**	**196500**	**172500**	**159500**	**139500**	**900000**	
Output 3.1.1 Feasibility study and term of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted				71200	International Consultants		30000				30000	50
				71300	Local Consultants		30000				30000	51
				72100	Contractual services		4000				4000	52
					Professional services (workshops)						0	
				71600	Travel		5000				5000	53
				74500	Miscellaneous		500	500			1000	54
		62000	**GEF**		**Total Output**	0	69500	500			70000	

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste in the order of 630t/yr				71200	International Consultants		30000	30000	30000	30000	120000	55
				71300	Local Consultants		60000	60000	60000	36000	216000	56
				72100	Contractual services		334000	780000	160000	4000	1278000	57
					Professional services (workshops)							
				71600	Travel		8000	8000	8000	2000	26000	59
				74500	Miscellaneous						0	
		62000	**GEF**		**Total Output**	0	432000	878000	258000	72000	1640000	
Output 3.2.2 Useful replication toolkits on how to implement best practices and techniques are developed				71200	International Consultants	2000	4000			6000	12000	60
				71300	Local Consultants				8000	15000	23000	
				72100	Contractual services					4000	4000	61
					Professional services (workshops)							
				71600	Travel							
				74500	Miscellaneous					1000	1000	62
		62000	**GEF**		**Total Output**	2000	4000	0	8000	26000	40000	
					Total Comp. 3	**2000**	**505500**	**878500**	**266000**	**98000**	**1750000**	
Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs (R3) of waste				71200	International Consultants							
				71300	Local Consultants		2000	2000	2000		6000	63
				72100	Contractual services		4000	4000	4000		12000	64
		62000	**GEF**		Professional services (workshops)							

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
				71600	Travel							
				74500	Miscellaneous		500	1000	500		2000	65
					Total Output		6500	7000	6500		20000	
Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central level improved to integrate SC requirements				71200	International Consultants	3000					3000	66
				71300	Local Consultants	6000	6000				12000	67
				72100	Contractual services						0	
					Professional services (workshops)						0	
				71600	Travel	2000	1000				3000	68
				74500	Miscellaneous	1000	1000				2000	69
		62000	**GEF**		**Total Output**	12000	8000				20000	
Output 4.1.3. Counties provided with training, manual, and technical assistance for the management of solid wastes.				71200	International Consultants	3000					3000	70
				71300	Local Consultants		12000				12000	71
				72100	Contractual services						0	
					Professional services (workshops)						0	
				71600	Travel	2000	1000				3000	72
				74500	Miscellaneous		2000				2000	73
		62000	**GEF**		**Total Output**	5000	15000	0	0	0	20000	
Output 4.2.1 Communities selected for demonstrating plans and actions for the reduction of solid				71200	International Consultants						0	
				71300	Local Consultants	8000					8000	74
		62000	**GEF**	72100	Contractual services							

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
waste openburning by increasing 3Rsof waste.					Professional services (workshops)							
				71600	Travel	1000					1000	75
				74500	Miscellaneous	1000					1000	76
					Total Output	10000	0	0	0	0	10000	
4.2.2. Local initiative for the re-use / recycling of organic waste (composting)				71200	International Consultants		6000	6000	6000	6000	24000	77
				71300	Local Consultants		12000	12000	12000	12000	48000	78
				72100	Contractual services		250000	50000	50000	40000	390000	79
					Professional services (workshops)		4000		4000	4000	12000	80
				71600	Travel		3000	3000	3000	3000	12000	81
				74500	Miscellaneous		1000	1000	1000	1000	4000	82
		62000	**GEF**		**Total Output**	0	276000	72000	76000	66000	490000	
4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics				71200	International Consultants		6000	6000	6000	6000	24000	83
				71300	Local Consultants		12000	12000	12000	12000	48000	84
				72100	Contractual services		100000	30000	30000	30000	190000	85
					Professional services (workshops)		4000		4000	4000	12000	86
				71600	Travel		3000	3000	3000	3000	12000	87
				74500	Miscellaneous		1000	1000	1000	1000	4000	88
		62000	**GEF**		**Total Output**	0	126000	52000	56000	56000	290000	
4.3.1 Prioritization of open-burning landfills to be closed and cleaned up,				71200	International Consultants		4500	4500			9000	89
		62000	**GEF**	71300	Local Consultants		10000	9000	3000		22000	90

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
emergency plans including social and resettlement issues and cleanup plans for at least 3 landfills drafted.				72100	Contractual services		4000		4000		8000	91
					Professional services (workshops)						0	
				71600	Travel		4000	3000			7000	92
				74500	Miscellaneous		1000	1000	1000	1000	4000	93
					Total Output	0	23500	17500	8000	1000	50000	
4.3.2. Emergency measures for reducing release of contaminant in the environment and the exposure of the population implemented in one high priority site.				71200	International Consultants			3000	3000	3000	9000	94
				71300	Local Consultants			3000	3000	3000	9000	95
				72100	Contractual services			25000	25000	25000	75000	96
					Professional services (workshops)						0	
				71600	Travel			2000	2000	2000	6000	97
				74500	Miscellaneous			500	500		1000	98
		62000	**GEF**		**Total Output**	0	0	33500	33500	33000	100000	
					Total Comp. 4	**27000**	**455000**	**182000**	**180000**	**156000**	**1000000**	
5. M&E				71200	International Consultants			25000		25000	50000	99
				71300	Local Consultants	7500	15000	15000	15000	15000	67500	100
				72100	Contractual services			4000		4000	8000	101
					Professional services (workshops)			10000		10000	20000	102
				71600	Travel			2000			2000	103
				74500	Miscellaneous	500	500	500	500	500	2500	104
		62000	**GEF**		**Total Output**	8000	15500	56500	15500	54500	150000	

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
					Total Comp. 5	8000	15500	56500	15500	54500	150000	
					Project total	325500	1378000	1383000	701500	512000	4300000	
										Project management cost	215000	
										Project total incl. Management cost	4515000	

Budget notes

1) International consultant totally2 weeks at 3000 USD/week for assisting in gap analysis

2) National consultant to draft Gap analysis report, amended legislation,

3) National and international travel

4) Office expenses, translation, communication, meeting rooms.

5) International consultant totally 3 days weeks at 3000 USD/week for assisting in preparation of training courses

6) National consultant to preparatopm of guidance documents and training material, training reporting and assessment

7) Contractual services for training facilities

8) Fee for trainers

9) National and international travel

10) Office expenses, translation, communication, meeting rooms.

11) One international expert for 2 weeks providing assistance in drafting guidance documents

12) 2 national experts for 12 weeks drafting guidance documents

13) One national expert for two weeks providing training on POPs sampling and analysis

14) Two national experts for 27 weeks providing training on certification, sampling and analysis of POPs and heavy metals

15) Contractual services for laboratory analysis, procurement of sampling equipment (isokinetic probes and samplers)

16) Renting of training facilities, preparation of training materials

17) National and international travel

18) Office expenses, translation, communication, meeting rooms.

19) National experts and university teachers designing and implementing curricula

20) Service contracts with universities and training facilities

21) National travel

22) Office expenses, translation, communication,

23) An international experts for one week assisting on the design of PRTR system and requirements

24) Development of software for PRTR and data entry services

25) Professional services to collate, check, systematize and format data on POPs an hazardous chemicals countrywide to be reported through the PRTR system

26) National and international travel

27) International consultant totally2 weeks at 3000 USD/week for assisting in the development of procedures on HCW management

28) International consultant totally2 weeks at 1000 USD/week for 23.5 weejs developing and testing procedures on HCW management

29) National and international travel

30) Office expenses, translation, communication, printing

31) International consultant totally3 weeks at 3000 USD/week for assisting in the adapting of WHO bluebook to Kenyan situation

32) International consultant totally2 weeks at 1000 USD/week for 23.5 weejs developing and testing procedures on HCW management

33) Contractual services for conference facilities

34) National and international travel

35) Office expenses, translation, communication, printing

36) International consultant recruited for 2weeks to provide training of trainers

37) 2 local consultants recruited part time for 4 years (totally of 120 weeks) to provide periodic training to the hospitals

38) National and international travel

39) Office expenses, translation, communication, printing

40) International consultant recruited for 2 weeks to provide training and supervision on I-RAT

41) Team of 4 national consultants recruited each for 4 weeks to carry out baseline assessment in the 12 hospitals and draft the reports

42) Contractual services for conference facilities

43) National and international travel

44) Waste management equipment and mercury free devices for twelve (12) model hospitals (assume on average 200 beds)

45) International consultant recruited for 2 weeks to provide training and supervision on I-RAT

46) Team of 4 national consultants recruited each for 4 weeks to carry out final assessment in the 12 hospitals and draft the reports

48) Contractual services for conference facilities

49) National and international travel

50) One international consultant recruited for 10 weeks to carry out feasibility studies for disposal facilities in the 12 hospitals

51) Naational expert recruited for 30 weeks to support the international consultant and carry out on site surveys

52) Contractual services for conference facilities

53) National and international travel

54) Office expenses, translation, communication, printing

55) Two international consultants recruited each 5 week / year x 4 years to supervise equipment delivery, installation, operation an testing in all the facilities

56) 4 national consultant recruited for 10 weeks each to supervise installation and operation of disposal faciliti and to support the international consultants.

57) Procurement of disposal facilities for the 12 hospitals: small autoclaves + shredder + accessories, transportation cost and insurance for 8 hospitals (60kx8); large autoclaves + shredder + accessories for 2 hospitals (450k); retrofitting of one incinerator with APCS system (at least airbag system - plus activated carbon column 200kUSD). Contractual services for conference facilities (8000 USD)

59) National and international travel

60) International consultant recruited for 2 weeks tho draft the replication toolkit

61) Contractual services for conference facilities

62) Communication, printing

63) One national consultant for six weeks to design and coordinate drafting of awareness materials

64) Contractual services for awareness raising events at communities and municipalities

65) Office expenses, printing, communication, sundries

66) International consultant totally1 weeks at 3000 USD/week for assisting in amendment of regulatory framework

67) National consultants to draft amendments on waste regulation (12 weeks)

68) National and international travel

69) Office expenses, translation, communication, meeting rooms.

70) One international consultant for one week to provide training for trainers

71) 4 national experts to provide training in the 4 demo counties

72) National and international travel

73) Offieespenses, printing of training material, communication

74) National consultants to coordinate with communities to be selected for the 3R activities demonstration

75) National travel

76) Office space, printing of awareness raising materials, communication

77) International consultant to provide technical assistance (2 weeks/year)

78) National consultantsrecrutied for 6 weeks/year to provide training and coordinate with activities on organic waste recycling (totally of 48 weeks)

79) Equipment for processing compost, support to local CBOs for carrying out the collection, treatment and selling of recycled compost

80) Cost for the organisation of 3 workshops

81) National and international travel

82) Office expenses, printing, communication, sundries

83) International consultant to provide technical assistance (2 weeks/year)

84) National consultantsrecrutied for 6 weeks/year to provide training and coordinate with activities on organic waste recycling (totally of 48 weeks)

85) Equipment for processing plastic waste, support to local CBOs for carrying out the collection, treatment and selling of recycled plastic

86) Cost for the organisation of 3 workshops

87) National and international travel

88) Office expenses, printing, communication, sundries

89) International consultant totally3 weeks at 3000 USD/week for assisting in the prioritization of landfills and drafting emergency plans

90) National consultant totally2 weeks at 1000 USD/week for 23.weeks Drafting emergency, social and resettlment plans

91) Renting of meeting facilities for international workshops on municipal waste management in Kenya

92) National and international travel

93) Office expenses, translation, communication, printing

94) International consultant (1wk/yr for 3 years) to assist in drafting TORs for emergency measure service at landfills

95) National consultants (3wks /yr for 3 yrs)

96) Contractual service to landfill managers and NGO/CBO to implement and monitor emergency measures

97) National and international trave.

98) Communication / Sundries

99) International consultants for carrying out mid-term and terminal evaluation

100) National consultants for project monitoring and planning

101) Contractual services for conference facilities

102) Financial audit services (mid term and final)

103) National and international travel

104) Office expenses, communication, translation services

Total Budget, Co-financing budget and incremental reasoning

GEF Outcome/Atlas Activity	Baseline project activities	Cofinancing activities (certified by co-financing commitment letters)	Cofinancing (USD)	Incremental activities bringing POPs reduction and global benefits	GEF (USD)
Component 1: Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MEMWNR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs					
Outcome 1.1 Policies, strategies Regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities and specifically those of the Stockholm convention and the SAICM recommendations, adopted and institutional capacity on U-POPs and waste management enhanced.	The Kenya national chemicals profile was completed in 2010. Under the SAICM Implementation Plan (SIP), based on the National Chemicals Profile it is expected that an inter-ministerial charter on chemical and hazardous waste management will be established; and that existing legislation will be reviewed and capacity for institutions and agencies to enforce those regulations will be increased. The Kenya reviewed and updated NIP also establishes priorities related to the sound management of chemicals, which should translate into actions.	GoK (MEWNR, MOH) law-making and enforcement activities on POPs, personnel and office space (200,000) GoK (MEWNR, MOH) activities on training and policy making, personnel and office space (100,000) GoK (MEWNR) activities on enforcement and supervision. (100,000) Meeting to be carried out under the budget of MEWNR (200,000)	600,000	Activities leading to this outcome are mainly envisaged at strengthening the Kenyan regulatory framework and their enforcement in the field of U-POPs with specific reference to the establishment of technical and environmental standard related to the emission of U-POPs from waste management.	110,000
Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.	One of the priorities of the NIP is to enhance laboratory services and research for monitoring of POPs pollutants and assessment of alternatives to toxic POPs.	Labs providing in kind and grant co-financing (indicate name of labs) (500,000) Universities and academy (indicate name) providing training facilities, teachers, office space (600,000) MEWNR providing infrastructures, equipment and personnel for hosting the PRTR database (300,000)	1,400,000	The project will support Kenya capacity on POPs sampling and analysis by delivering the necessary training, providing sampling equipment; and assisting 2 labs in obtaining the necessary certification; The project will also carry out training for trainer to facilitate the development of University level CVs. In addition the project will provide technical and financial support for the development of a PRTR database.	390,000
Outcome 2.1 Personnel of hospital facilities and control authorities at central and county level have enough capacity guidance and equipment to manage	A number of guidance document on healthcare waste has been issued, like the National Health Care Waste Management plan (2008 – 2012) and the National Health Care Waste	MOH team to lead the drafting and revision of procedures and guidelines: experts, office space, meeting facilities (500,000) MOH coordinating the drafting and revision of the HCWM (experts, meeting facilities) (300,000)	800,000	The project will provide technical and financial support for the Procedures and guidelines for the assessment and implementation of hazardous waste management	90,000

GEF Outcome/Atlas Activity	Baseline project activities	Cofinancing activities (certified by co-financing commitment letters)	Cofinancing (USD)	Incremental activities bringing POPs reduction and global benefits	GEF (USD)
healthcare waste in an Environmental Sound Manner	Management Guidelines 2011			at healthcare facilities built on lessons and examples from the application of the I-RAT tool under GEF4 /UNDP projects worldwide and on the WHO bluebook Safe Management of Wastes from Health-care Activities The project will also provide technical and financial support on the development of national healthcare waste handbook, including criteria for selection and operation of disposal technologies	
Outcome 2.2 Implementation of BAT/BEP at selected hospital facilities successfully demonstrated and measured against the baseline	The government of Kenya drafted in 2008 - 2012, in cooperation with the WHO, the Health Care Waste Management plan, outlining the HCWM status in the counties, defining priorities and objectives, stressing the fact that the management of HCW is an integral part of hospital hygiene and infection control. The plan however did not properly t identify technologies for the environmentally sound disposal of HCW, and ESM criteria for HCWM in the hospitals are still largely unapplied. The Healthcare waste management strategic plan 2015 – 2020 is still under preparation.	Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting training and providing training facilities (600,000) Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting baseline assessment through making available personnel and necessary equipment (120,000) Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting management of healthcare waste (personnel, necessary equipment and infrastructures) (600,000) Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting final assessment through making available personnel and necessary equipment (120,000)	1,440,000	The project will provide technical assistance, training, and HCWM equipment for ensuring the implementation of Environmentally sound management of Healthcare waste in the 12 selected facilities. This will envisage: training of trainers of experts to be deployed to model facilities; baseline and final assessment of the model facilities; implementation of the ESM of	810,000
Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county					
Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed	Activities related to the selection and procurement of disposal facilities are mostly undertaken in a non-coordinated way at the County level. .	GoK (MOH) by providing experts and meeting facilities for feasibility study (50000)	50,000	The project will deliver the necessary technical assistance to ensure that the disposal facility selected will be compliant with the Stockholm Convention and will contribute substantially to the environmentally sound	70,000

GEF Outcome/Atlas Activity	Baseline project activities	Cofinancing activities (certified by co-financing commitment letters)	Cofinancing (USD)	Incremental activities bringing POPs reduction and global benefits	GEF (USD)
				disposal of waste and the significant reduction of U-POPs release.	
Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully established and demonstrated, with a potential reduction of U-POPs emission in the order of 20gTeq/year	Incinerators are the preferred technologies although there are no sound guidelines and knowledge on incineration practices and technology requirements.. New small incinerators installed at HCFs are being purchased by the counties to replace the existing batch incinerators.	The Clean Tech East Africa initiative sponsored by JICA related to the development of an incinerator for hazardous waste in Nairobi. The CTEA project aims at developing an integrated system centred on a large rotary kiln incinerator equipped with state of the art APCS, compliant with the Stockholm Convention, and including containerized systems for transport of waste. This initiative integrates perfectly with project activities on HCWM on the side of disposing specific HCWM waste stream and ensuring a traceable and safe transport of HCWM from model facilities to the disposal site. (8,000,000)? GoK (MOH) by providing experts and meeting facilities for replication toolkit (50,000)	8,050,000	The output delivered under this outcome will have the main purpose to demonstrate non-combustion pre-treatment equipment in a limited number of HCF, and (if this is technically and economically feasible) upgrading of an existing incinerator in a selected facility. A proper waste manifest system will be also enforced to ensure that waste treated - either from the same facility or from other facilities - is properly tracked. A careful technical and economical feasibility analysis for the upgrade of a double chamber, up-to-date incinerator will be carried out.	1,680,000
Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste.					
Outcome 4.1. Awareness raising and capacity strengthening on ESM management of solid waste ensured	To reduce UPOPs releases the country project's strategy aims at organizing and bringing the informal sector into the formal waste management sector through proposal contained in the integrated solid waste management (ISWMS) of 2010. UPOPs cover Articles 5 and 6 of the Stockholm Convention.	NGOs providing co-financing on training and awareness raising (300,000)? MEWNR supporting the project by means of law-making and law-enforcement activities, personnel and meeting facilities. (200,00) Counties supporting the project by providing experts on training and enforcement, personnel, equipment. (400,000)	900,000	The project will enhance the awareness on the management of municipal waste, both for the general population, the communities operating on waste recycling, and the local environmental authorities, with specific focus on collection and 3Rs (Reduce, Reuse, Recycle) criteria.	60,000
Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, with a reduction of unintentionally produced POPs from the burning of solid waste of 80	Scattered activities on collection and recycling of municipal waste are promoted / implemented by local NGOs. .Generally about only 20-25 % of the total wastes generated in the low in come areas is collected and disposed off at the designated disposal sites Large plastic recycling plants are	The NGO "Green Belt Movement" has experience and is carryng out small scale projects on composting of organic waste. It will support the project by making available staff with experience in composting, vehicles, and coordinating their ongoing activities on composting with project activities. Local and central NGOs providing equipment	5,000,000	The project will provide technical and financial assistance to develop and implement sustainable actions aimed at the collection and recycling of: • At least 500t/month of compostable waste,	790,000

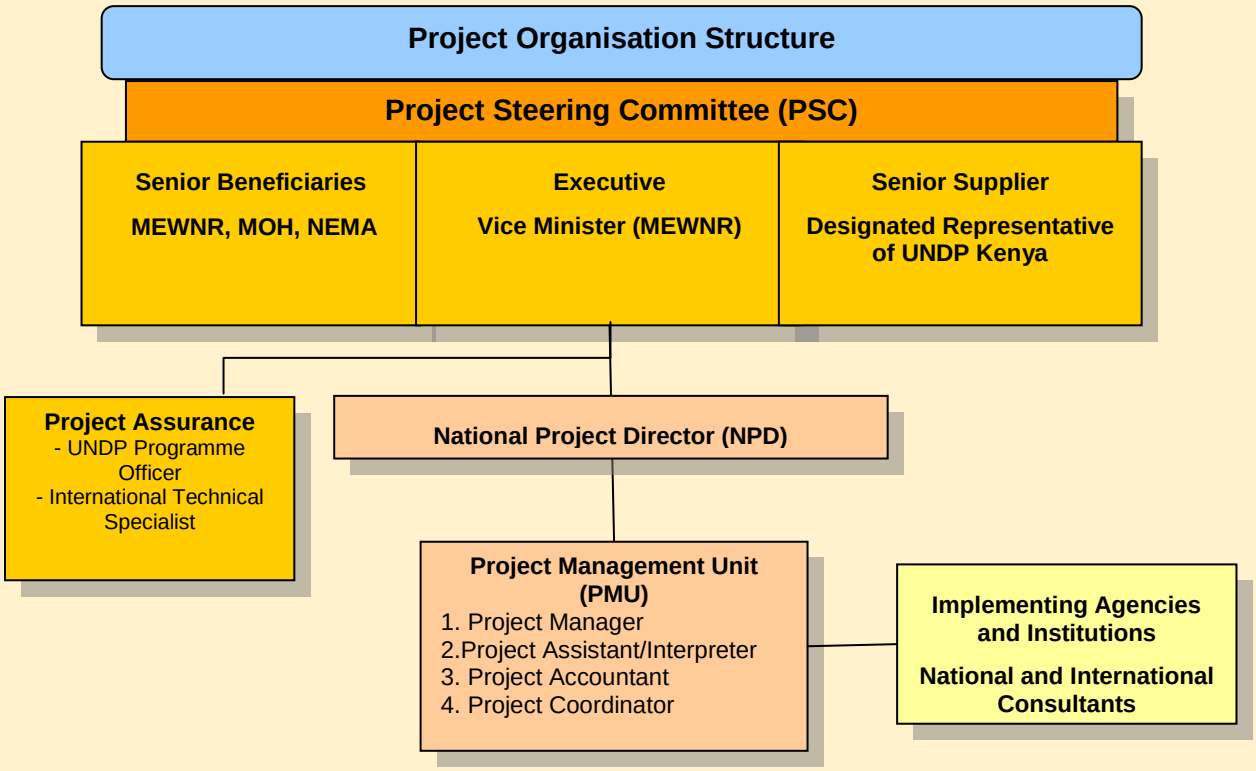
GEF Outcome/Atlas Activity	Baseline project activities	Cofinancing activities (certified by co-financing commitment letters)	Cofinancing (USD)	Incremental activities bringing POPs reduction and global benefits	GEF (USD)
g I-TEQ/year (20 % of the current estimate of 400 g I-TEQ/year), to be confirmed .Emergency plan to reduce exposure of population to harmful substances implemented.	operational in Kenya. In Nairobi a large facility visited in the course of project preparation recycle between 400 to 700 t/months of plastic waste.	and facilities for the segregation and collection of organic waste. (420,000). Associations of industries provide land and equipment for organic waste recycling (1,580,000) Local and central NGOs providing equipment and facilities for the segregation and collection of plastic waste. (500,000) Associations of industries provide infrastructures and equipment for the recycling of plastic waste (2,500,000)		documented by a proper waste accounting system, with a reduced emission of U-POPs in the order of at least 2g/yr • At least 30 tons / month of plastic successfully collected from the source(not on the dumpsites) and re-used or re-cycled documented by a proper waste accounting system with a reduced emission of U-POPs in the order of at least 2g/yr In addition the project will demonstrate risk-reduction measures to for reducing release of U-POPs in the environment and the exposure of the population implemented in one high priority site	
Outcome 4.3 Municipal waste disposal sites with adequate management practices (non-burn).		MEWNR providing technical assistance on the prioritization of interventions on landfills. (100,000) NGOs providing assistance on landfill surveillance and training (200,000)	300,00		200,000

III. MANAGEMENT ARRANGEMENTS

Project Organization Structure

1. The project has been financed by the GEF and UNDP acts as the GEF Implementing Agency. The project will be executed by EEAA, which will assume the overall responsibility for the achievement of project results as UNDP's Implementing Partner (IP). This IP will be subject to the micro assessment and subsequent quality assurance activities as per Harmonized Approach to Cash Transfers to Implementing Partners (HACT) framework. UNDP will provide overall management and guidance from its Country Office in Nairobuand the Regional Centre in Istanbul, and will be responsible for monitoring and evaluation of the project as per normal GEF and UNDP requirements. EEAA will designate a senior official as the National Project Director (NPD) for the project. The NPD will be responsible for overall guidance to project management, including adherence to the Annual Work Plan (AWP) and achievement of planned results as outlined in the ProDoc, and for the use of UNDP funds through effective management and well established project review and oversight mechanisms. The NPD also will ensure coordination with various ministries and agencies, provide guidance to the project team to coordinate with UNDP, review reports and look after administrative arrangements as required by the Government of Kenya and UNDP. The project will be executed according to UNDP's National Implementation Modality (NIM), as per the NIM project management implementation guidelines agreed by UNDP and the Government of Kenya.

Project Organization Structure



2. The Project Steering Committee (PSC) will assume oversight of the Project Management Unit (PMU). The PSC will consist of a Chairperson (MEWNRVice Minister); with PSC members from MEWNR, MOH, HCF managers and representatives of county Environmental Authorities, UNDP Kenya. The primary functions of the PSC will be to provide the necessary direction that allows the Project to function and achieve its policy and technical objectives, and to approve the Annual Work Programmes (AWP) and M&E reports.

3. The PMU will report to the National Project Director. The PMU will assume the responsibility of the project's implementation under the lead of MEWNR/NEMA, MOH, the PSC and UNDP, planning activities and budgets, recruiting specialists, conducting training workshops and other activities to ensure the Project is executed as per approved work plans.

4. As a senior supplier, UNDP also has a role of project assurance. This role will be exercised by the UNDP Programme Officer responsible for the project, based in the UNDP Country Office (CO), and an International Technical Specialist, funded by the project.

5. Both the PMU and the NPD will implement mechanisms to ensure ongoing stakeholder participation and effectiveness with the commencement of the Project by conducting regular stakeholder meetings, issuing a regular project electronic newsletter, conducting feedback surveys, implementing strong project management practices, and ensuring close involvement with UNDP Kenya as the GEF implementing agency. A list of Project stakeholders and their projected roles in the Project are provided in Table 5.

General

UNDP support service

6. MEWNR/NEMA will enter into an agreement with UNDP for support services in the form of procurement of goods and services during the project implementation process. In such a case, appropriate cost recovery will be charged as per UNDP rules and regulations. The support services will be outlined in the form of Letter of Agreement signed between MEWNR/NEMA and UNDP.

Collaborative Arrangements with Related Projects

7. The project development team at MEWNR/NEMA will consult and involve the implementers of the relevant ongoing POPs related projects and programmes as well as other chemical management or environmental protection programmes in the country in the design and development of the Project to explore synergies and avoid overlaps.

8. With regards to other initiatives in the region, the Project will promote learning and knowledge sharing and forge partnerships between Kenyian entities and other country partners to replicate best practices and facilitate technology transfer.

9. This proposed Project will establish the necessary communication and coordination mechanisms through its PMU and PSC with the Project Management Board to ensure proper coordination between the various projects there under. UNDP Kenya will also take the lead in ensuring adequate coordination and exchange of experiences. In addition, the project will seek to coordinate its actions with other UNDP POPs related activities in Kenya. Similarities in the strategy of the proposed project may extend an opportunity to share lessons and exploit synergies, in particular in the areas of harmonization and mutual recognition. Also, the proposed project will also seek to coordinate actions with other existing government commitments and non-government initiatives.

Prior Obligations and Prerequisites

10. There are no prior obligations and prerequisites.

Audit Arrangements

11. The Government will provide the UNDP Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the programming and finance manuals. The audit will be conducted according to UNDP financial regulations, rules and audit policies by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

Agreement on Intellectual Property Rights and Use of Logo on Project Deliverables

12. To accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF-supported project publications, including among others, project hardware, if any, purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgement to GEF.

13. The project team and the UNDP Office in Nairobi supported by the UNDP-GEF Regional Coordination Unit in Istanbulwill be responsible for project monitoring and evaluation conducted in accordance with established UNDP and GEF procedures. The Project Results Framework provides performance and impact indicators for project implementation along with their corresponding means of verification. The GEF CC Tracking Tool will also be used to monitor progress in reducing GHG emissions. The M&E plan includes: inception workshop and report, project implementation reviews, quarterly and annual review reports, independent mid-term evaluation, and independent final evaluation. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities.The M& E budget is provided on Table 6.

Monitoring Framework and Evaluation

The project will be monitored through the following M&E activities. The M&E budget is provided in the table below.

1. *Project start*: A Project Inception Workshop will be held within the first 4 months of the project starting with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders will be invited. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan. The Inception Workshop would address a number of key issues including:

    a) Assisting all partners to fully understand and take ownership of the project;
    b) Detailing the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis-à-vis the project team;
    c) Discussing the roles, functions, and responsibilities within the Project's decision-making structure including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference of project staff will be discussed again as required;
    d) Finalization of the first annual work plan based on the project results framework and the relevant GEF Tracking Tool if appropriate. A review and agreement on the indicators, targets and their means of verification will be required as well as a re-check of assumptions and risks;
    e) Providing a detailed overview and reach consensus on reporting, monitoring and evaluation (M&E) requirements, the M&E work plan and budget;
    f) Discussion of financial reporting procedures and obligations, and arrangements for annual audit;
    g) Planning and scheduling Project Board meetings; and,
    h) Clarification of roles and responsibilities of all project organization structures as well as planned dates of meetings where the first PSC meeting should be held within the first 12 months following the inception workshop.

2. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

3. *Quarterly Progress Report*: Contents of the QPR include:

    - Progress made as reported in the Standard Progress Report (SPR) and monitored in the UNDP Enhanced Results Based Management Platform;

Table 6: M&E Work Plan and Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time Frame
Inception Workshop and Report	Project Manager UNDP CO, UNDP GEF	Indicative cost: 45,000	Within first four months of project start up
Measurement of Means of Verification of project results.	UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on *output and implementation*	Oversight by CTA with support from the Project Manager Project team	To be determined as part of the Annual Work Plan's preparation.	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	Project manager and team UNDP CO UNDP RTA UNDP EEG	None	Annually by July
Periodic status/ progress reports	Project manager and team	None	Quarterly
Mid-term Evaluation	Project manager and team UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost: 40,000	At the mid-point of project implementation.
Final Evaluation	Project manager and team, UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost : 40,000	At least three months before the end of project implementation
Project Terminal Report	Project manager and team UNDP CO		At least three months before the end of the project
Audit	UNDP CO Project manager and team	Indicative cost per year: 5000 x 5 years	Yearly
Visits to field sites)	UNDP CO UNDP RCU (as appropriate) Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		150,000 (+/- 5% of total budget)	

- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS (if applicable otherwise outside ATLAS). Risks become critical when the impact and probability are high;
- Project Progress Reports (PPR) as generated in the Executive Snapshot and based on the information recorded in Atlas; and,
- Other ATLAS logs that are used to monitor issues and lessons learned. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

4. *Annual Project Review /Project Implementation Reports (APR/PIR)*: APRs/PIRs are key reports prepared to monitor progress since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements, and includes, but is not limited to, reporting on the following:

   - Progress made toward project objective and project outcomes, each with indicators, baseline data and end-of-project targets (cumulative);
   - Project outputs delivered per project outcome (annual);
   - Lesson learned/good practice;
   - AWP and other expenditure reports;

- Risk and adaptive management;
- ATLAS QPR; and,
- Portfolio level indicators (i.e. GEF focal area tracking tools) that are used by most focal areas on an annual basis.

5. *Periodic Monitoring through site visits:*UNDP CO and the UNDP RCU staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

6. *Mid-term of project cycle*: The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation. The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

7. *End of Project*: An independent Final/Terminal Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

8. The Final Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

9. *Learning and knowledge sharing*: Results from the project will be disseminated within and beyond the Project intervention zone through a number of existing information sharing networks and forums. In addition:

   - The Project will participate, as relevant and appropriate, in UNDP/GEF sponsored networks, organized for senior personnel working on projects that share common characteristics;
   - The Project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned; and,
   - The Project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identifying and analyzing lessons learned is an on-going process and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting the lessons learned. To this end a percentage of project resources will also need to be allocated for these activities;
   - This GEF-funded Project will endeavor to compile and share its development results within a monitoring framework that is designed to meet the goals of the UN One Plan outcomes.

LEGAL CONTEXT

1. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Kenya and the United Nations Development Program, signed by the parties on 21 March 1978. The host country-implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

2. Consistent with the Article III of the SBAA, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner. The implementing partner shall:

    - Put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
    - Assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

3. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

4. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via:http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm**.**

5. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

ANNEXES

ANNEX I: RISK ANALYSIS

OFFLINE RISK LOG

Project Title: Sound Chemicals Management Mainstreaming and UPOPs reduction in Kenya.	**Project ID:**	**Date:**

#	Description	Date Identified	Type	Impact (L, M. H) & Probability (L, M, H)	Countermeasures / Management responses	Owner	Submitted, updated by	Last Update	Status (compared with previous evaluation)
1	Lack of coordination of the relevant institutions and ministries	10/08/2014	Institutional	M/M	Coordination and solution of conflicts among different stakeholders will be solved by involving them in the project steering committee and/or in specific project activities and establishing a well-staffed PMU for project management.	PM GOV	UNDP	10/08/2014	N/A at this stage
2	New legislation compliant with the SC or amendment of the current legislation cannot be drafted and adopted within project timeframe due to length of the lawmaking process	10/08/2014	Institutional	M/H	The selection of the proper law-making process (i.e., decrees or official guidance embedded in existing regulations) will ensure that the implementation and enforcement of an improved regulatory framework on E-waste compliant with the Basel and Stockholm convention is achieved within the project timeframe.	PM GOV	UNDP	10/08/2014	N/A at this stage
3	Lack of cooperation of relevant stakeholders (Community Based Operators, dumpsite communites, Industries) to cooperate in the establishment of a sound management of recyclable waste	10/08/2014	Management	M/H	The project will aim at generating income by means of establishing of a better quality market chain for recyclable waste. This will represent an incentive for all the partners and stakeholders to collaborate together.	PM	UNDP	10/08/2014	N/A at this stage

#	Description	Date Identified	Type	Impact (L, M. H) & Probability (L, M, H)	Countermeasures / Management responses	Owner	Submitted, updated by	Last Update	Status (compared with previous evaluation)
5	Raising awareness activities on municipal not effective or do not reach the proper target	10/08/2014	Management	L/M	Awareness raising will be the result of a targeted communication effort which will occur by using both electronic media (TV, internet) and face to face meeting and communication. The awareness raising will be designed after carefully listening of the stakeholder needs. .	PM GOV	UNDP	10/08/2014	N/A at this stage
8	Issues in the procurement of non-incineration technologies through UNDP-PSO Health and procurement of HCWM supplied	10/08/2014	Management / Technical	M/L	This risk may be minimized thanks to the sound experience UNDP already gathered in similar projects, including a global project involving the procurement of this equipment in 8 countries	PM	UNDP	10/08/2014	N/A at this stage
9	Project HCFs not willing to enter into contracts with the CTFs for treatment of the HCW.	10/08/2014	Institutional	L/L	Joining the project represent an evident technical and financial benefit for HCF, which will be self sustainable also after project closure	PM GOV	UNDP	10/08/2014	N/A at this stage
10	Ministry of Health and national medical training institutions unwilling to revise the national training modules by on international best practices in HCWM training.	10/08/2014	Institutional	L/L	MoH already recognised the need for review of training modules. In any case, any modification to the national training modules will be discussed in advance to ensure MoH involvement.	PM GOV	UNDP	10/08/2014	N/A at this stage
11	Government of Kenya unwilling to consider making necessary changes to the national	10/08/2014	Institutional	L/L	MEWNR and NEMA are already aware of the need to improve the regulation on hazardous waste	PM GOV	UNDP	10/08/2014	N/A at this stage

#	Description	Date Identified	Type	Impact (L, M. H) & Probability (L, M, H)	Countermeasures / Management responses	Owner	Submitted, updated by	Last Update	Status (compared with previous evaluation)
	laws and plans pertaining to HCWM.								
13	Project HCFs are unwilling to participate in baseline assessments and are not open to sharing information related to their current HCWM practices.	10/08/2014	Management	M/L	The project will work with facilities which are interested in participating in baseline assessment and to share information. The benefit obtained in these facilities will be disseminated to ensure replicability and sustainability of the project	PM	UNDP	10/08/2014	N/A at this stage

ANNEX II: TOR FOR KEY PROJECT PERSONNEL

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	National Project Director
Contractual Modality	Part time.
Duty Station	Nairobi with travel in Kenya
Supervision	Government of Kenya, MEWNR/NEMA.

Duties and responsibilities

Overall, **t**he NPD will be accountable to both the Government and the UNDP. The main duties and responsibilities are:

- Ensures that the expected results of the project are of satisfactory, substantive quality and that they contribute to the achievement of the intended outcome identified in the ONE UN document. This will be discharged through the (i) approval of project work plans, TORs, reports, (ii) follow-up on the implementation of recommendations made by regular project reviews and/or external evaluations, and (iii) conduct of internal reviews and evaluations as/if needed.
- Ensures that project resources, national as well as international, are effectively utilized for their intended purposes through the (i) verification of project budgets and payments, (ii) approval of budget revisions within the agency flexibility limit, (iii) follow-up on the implementation of recommendations made by external audits and (iv) conduct of internal audits as/if needed.
- Ensures that counterpart funds are made available by the Implementing Partner in sufficient quantities and in a timely manner to support project implementation.
- Ensures that project parties, particularly national parties (including the Implementing Partner) fully participate in project implementation, effectively collaborate in project activities and duly benefit from project results.
- Ensures that the results achieved and lessons learned by the project are properly documented, proactively disseminated to and duly shared with all project parties, particularly national parties.
- Selects, arranges for the appointment of and supervises the Project Manager, in consultation with UNDP, to make sure that the PM and other national project staff are empowered to effectively perform their day-to-day project duties.
- Selects, arranges for the appointment of International Consultants, in consultation with UNDP, to make sure that international project personnel contribute expert inputs of the highest quality to the expected outputs of the project.
- Represents the Implementing Partner at major project reviews, evaluations, audits and other important events.
- Provide regular updates to the PSC.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	Technical Officer of the Project Management Unit
Contractual Modality	Full time – one year renewable up to 3 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PMU Project Manager

Duties and responsibilities

This assignment is for a full time PMU Technical Officer who will be recruited with the objective to provide PMU with technical assistance and advice on all the activities to be carried out under the Project, to help on routine technical coordination and supervision and to prepare or assist in the preparation of relevant project documentation and training materials. The TO will work under overall supervision of Project Manager.

The Technical Officer will, in general, be responsible for:

1. Assisting PMU in drafting the inception report of the project;
2. Assisting PMU in overall technical management and coordination of all project activities;
3. Technical support to PMU on the supervision of all the technical activities related to institutional strengthening, policy framework, POPs and PTS cleanup plans, project monitoring and evaluation, and replication program development;
4. Technical support to PMU in participating in meetings with UNDP and the PSC;
5. Technical support to PMU in coordinating the work of international consultants;
6. Providing comments on project implementation progress at different stages;
7. Assisting PMU in drafting Term of References for all the services and equipment to be procured under the project;
8. Assisting PMU in drafting technical reports and management reports like the Project Implementation Reports, (PIR), Annual and Quarterly Progress Reports (APR, QPR) and Annual and Quarterly Workplans (AWP, QWP);
9. Assist PMU in drafting minutes of the meetings with special reference to the technical part;
10. Perform site visits and inspections at project implementation sites during various implementation stages (site visits and contaminated sites, industrial sites, trainings)
11. Provide comments on the reports related to the technical activities and review the related plan under the Project to ensure their technical feasibility and most appropriate measures and actions taken.
12. Supervise the work of service provider to guarantee the quality and consistency of the reports and deliverables, and help them finalize reports before their dissemination to concerned parties;
13. Timely and proactively provide recommendation for the improvement of all project activities.

Duration of this assignment, duty station and expected places of travel

This is a full time assignment of the duration of one year. The contract may be renewed yearly for maximum 3 years (the duration of the Project) on the basis of the satisfactory evaluation of the performance of the work carried out by the Technical Officer in the preceding year.

The Technical Officer will work at the PMU office to be established in Nairobi.

The Technical Officer is expected to travel within the country at the implementation sites, to supervise project implementation activities. The exact number of travels will be specified in the course of project implementation based on project needs. Travel and subsistence during travel will be paid by the project.

Deliverables

The following deliverables will be submitted to the PMU by the Technical Officer:

Short quarterly work-plan of the activities to be carried out under this assignment;
Draft Inception report of the Project;
Quarterly reports of the activities carried out under this assignment (three reports per year);
Comments reports and supervision reports as relevant for the different project activities;
Draft TORs for the required project activities;
Draft PIR, APR, QPR, AWP, QWP
Mission report and debriefing for the field visit;
Meeting minutes, with special reference to the technical parts.

Required qualifications

The Technical Officer shall have as a minimum the following qualifications:

Advanced degree (Master of Science as a minimum) in Engineering, Industrial Chemistry, Environmental Science, Biology.
Sound experience on POPs and Stockholm Convention,
At least 5 year experience in the field of chemical risk assessment, or in projects related to the implementation of Stockholm Convention on POPs, or in the management of hazardous chemicals and waste;
Previous experience as supervisor / Technical Officer in projects related to environmental protection or hazardous waste management;
Previous experience in the implementation or supervision of projects related to the management and disposal of POPs or PCBs is an asset.

In addition, the Technical Officer should be independent and should not have any personal interest related to project activities which may hinder its independency and which may distort or bias his performance.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Consultancy Title	Project Manager of the Project Management Unit
Contractual Modality	Full time – one year renewable up to 3 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PSC National Project Director

Duties and responsibilities

Overall, the PM will be responsible for the day-to-day running of the project, including overall coordination, planning, management, implementation, monitoring & evaluation and reporting of all project activities:

- Prepare and update project work plans, and submits these to the NPD and UNDP for clearance.
- Participate in quarterly work planning and progress reporting meetings with the NPD, PMU, and UNDP;
- Ensure that all agreements with implementing agencies are prepared, negotiated and agreed upon.
- Prepare TORs for key inputs (i.e. personnel, sub-contracts, training, and procurement) and submits these to the NPD and UNDP for clearance, and administers the mobilization of such inputs.
- With respect to external project implementing agencies/ sub-contractors:
    a. ensuring that these agencies mobilize and deliver the inputs in accordance with their letters of agreement or contracts, and
    b. providing overall supervision and/or coordination of their work to ensure the production of the expected outputs.
- Assume direct responsibility for managing the project budget by ensuring that:
    a. project funds are made available when needed, and are disbursed properly,
    b. expenditures are in accordance with the project document and/or existing project work plan,
    c. accounting records and supporting documents are properly kept,
    d. required financial reports are prepared,
    e. financial operations are transparent and financial procedures/regulations for NEX projects are properly applied; and
    f. S/he is ready to stand up to audits at any time.
- Assume direct responsibility for managing the physical resources (e.g. vehicles, office equipment, and furniture) provided to the project by UNDP.
- Supervise the project staff and local or international short-term experts/consultants working for the project.
- Prepare project progress reports of various types and the Final Project Report as scheduled, and organizes review meetings and evaluation missions in coordination with UNDP.
- Report regularly to and keeps the NPD and UNDP PO up-to-date on project progress and problems.

Required Qualifications

University degree (preferably post-graduate degree) in environment management, chemicals or related fields;

Knowledge of Result-based management and at least 5 years of experience in project management and implementation;

Strong analytical skills, good inter-personal and team building skills – Leading skills;

Full time availability for project management duties;

Working level of English language is an absolute necessity;

Familiarity with technical assistance projects and UNDP programme in Kenya is an asset.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	Accountant Secretary of the Project Management Unit
Contractual Modality	Full time – one year renewable up to 3 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PMU Project Manager and PSC National Project Director

Duties and responsibilities

This Account Secretary Position has two roles: as an Administrative Assistant and as an Accountant with the following duties:

a. As a Project Administrator

Provide assistance in the operational management of the project according to the project document and the NEX procedures.
Undertake all preparation work for procurement of office equipment, stationeries and support facilities as required;
Provide support in preparing project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc., as required.
Take care of project telephone, fax, and email system;
Assist with preparation of TORs and contracts for consultants for project activities.

b. As a Project Accountant

Prepare quarterly advance requests to get advance funds from UNDP in the format applicable.
Assist the PC and NPD in project budget monitoring and project budget revision.
Set up accounting system, including reporting forms and filling system for the project, in accordance with the project document and the NEX procedures;
Maintain petty cash transactions. This includes writing of receipts, preparation of payment request form, receipt and disbursement of cash and clearance of advances;
Prepare cheques and withdraw money from the bank;
Prepare project financial reports and submit to PC and NPD for clearance and furnish to UNDP as required;
Enter financial transactions into the computerised accounting system;
Reconcile all balance sheet accounts and keep a file of all completed reconciliation;
Check and ensure that all expenditures of projects are in accordance with NEX procedures. This includes ensuring receipts to be obtained for all payments;
Check budget lines to ensure that all transactions are booked to the correct budget lines;
Ensure documentation relating to payments are duly approved by the NPD;
Bring any actual or potential problems to the attention of the NPD;
Follow up bank transfers. This includes preparing the bank transfer requests, submitting them to the bank and keeping track of the transfers;
Ensure Petty Cash to be reviewed and updated ensuring that there is up-to-date records;
To continuously improve system & procedures to enhance internal controls to satisfy audit requirements.
Ensure that bank statements be collected from the banks on the 2nd working day of each month;
Ensure that bank accounts should be reconciled and reported on or before 3rd of each month;
Prepare monthly bank reconciliation statement, including computation of interests gained to be included into reports.

Maintain the inventory file to support purchases of all equipment/assets.
Undertake other relevant matters assigned by the NPD.

Required Qualifications

University degree in accounting, finance or related fields;
Solid experience of budgeting, planning and reporting on foreign funded projects; and experience with international auditing requirements.
Good secretarial skills and good organizational capacity;
Knowledge in administrative and accounting procedures of the Government
Good computer skills in common word processing (MS Word), spreadsheet (MS Excel), and accounting software.
Appropriate English language skills, both spoken and written.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	Project Interpreter/ Secretary (PIS)
Contractual Modality	Full time – one year renewable up to 3 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PMU Project Manager

Duties and responsibilities

Under overall supervision of National Project Director, the PIS will work under the direct supervision of and provide support to the Project Manager in the discharge of his/her responsibilities in the overall management of the day-to-day activities of the project. The PIS will work closely with the NPD, the PM, staff from the PMU and other international and national consultants. The main duties of the PIS are relating to secretarial and Interpretation/translation.

a. Responsibilities of the Project Secretary:

Provide necessary assistance in the operational management of the project according to the project document and the NEX procedures.
Draft correspondence on administrative and program matters pertaining to the Project Office responsibilities;
Provide support in preparing project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc., as required. This also includes preparation of background materials for use in discussions and briefing sessions on project matter;
Logistical arrangements. This includes visa, transportation, hotel bookings for project staff, consultants and invited guests coming for project activities;
Be responsible for project filing system. This includes setting up the filing, numbering and filing all incoming and outgoing correspondence.
Prepare regular list of events for sharing of information within project staff and outside;
Assist with project communication activities, including publications;

b. Responsibilities as Project Interpreter:

Providing interpretation services to the Project activities, including meetings, small-scale workshops, and relevant events;
Acting as interpreter for NPD and international consultants;
Translating project documents, materials, papers, letters etc. from Swahili into English and vice versa.

Qualifications

University degree in English language, administration or related fields;
Good command of both written and spoken English and at least four (03) years of working experience in the positions of secretary or interpreter/ translator.
Good secretarial skills and good organizational capacity;
Knowledge in administrative procedures of the Government
Good computer skills in common word processing (MS Word), spreadsheet (MS Excel),;
Knowledge and experience in working with UN agencies and international organizations is an advantage.